Service
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V32 107E6

Model: 107E61/00

Service Manual

Horizontal Frequencies
30 - 71KHz

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SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES

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Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all Philips Consumer Electronics Company** Equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

* *Hereafter throughout this manual, Philips Consumer Electronics Company will be referred to as Philips.

WARNING

Critical components having special safety characteristics are identified with a ⚠ by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol ⚠ on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design.
Servicer assumes all liability.

** Broken Line*

FOR PRODUCTS CONTAINING LASER :

DANGER- Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION- The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

1. General

1.1. Product description

This color monitor is specified as a display peripheral within an IBM PS/2, VGA+ and advance VGA compatible system. The monitor operates at horizontal line rates of 30 - 71 KHz and refreshment rate of 50 - 160 Hz, and can be connected to RGB analog computers with above scanning frequencies.

1.2. Destination : See 9. Deviation table .

1.3. Basic data

1.3.1 Cathode ray tube

Dimensions : 17 inch

Pitch : 0.27

Deflection angle : 90 degrees

Glass : dark

Light transmission : 52%(LG), 47%(HF), 46%(CPT), 53.5%(ORION),

Surface : IRIS(PHL)/AGARAS(CPT,LG,ORION)

Implosion protection : CRT is provided with P-mini-rim-band.

Black matrix : Yes

Phosphor : P22

EHT : 25 KV (Ib=0)

CRT source : LG, HF, CPT, ORION

1.3.2 Power supply

Main voltage : 90 - 264VAC, 47 - 63 Hz

Power consumption : 70 Watts normal, 75 Watts max.

Power cord length : 1.45 M

Power cord type : See 9. Deviation table

Power indicator : LED (green), non-protrude

1.3.3 Horizontal scan : AUTO 30K~ 71 KHz

1.3.4 Vertical scan : 50 Hz - 160 Hz

1.3.5 Input signals

1. Input signals : RGB analog

2. Signal input level

Video : 0 - 0.7 Vpp Linear / 75 ohms

Sync : Separate sync with TTL level

3. Impedance

Video : Terminated with 75 ohms

Sync : Terminated with 4K7 ohms pull down resistor

1.3.6 Input signals

Signals shall be applied to the display device through a shielded cable 1.45 m long which is intended as a part of the monitor (tolerance on cable length : +/- 50 mm).This cable shall be a suitable type to comply with any specification item.

1.Pin assignment

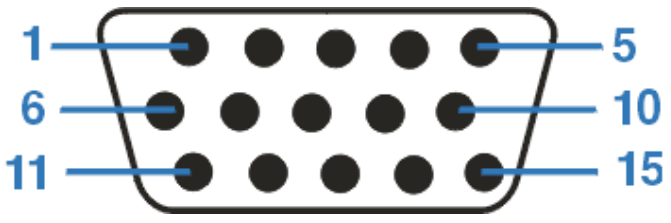
VESA DDC2B DISPLAY :

15 pin D-shell male connector type AMP 211350-1 or equivalent, with pin assignment as follows :

2.Signal cable

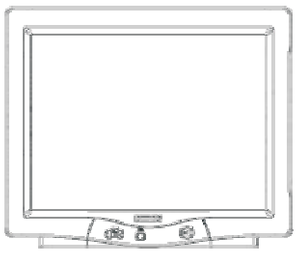
1.45M flying with 15 pin D shell socket (length tolerance : +/ - 50 mm)

Pin No.	Assignment		Pin No.	Assignment
1	Red video input		9	+5V DDC supply
2	Green video input		10	Logic ground
3	Blue video input		11	Identical output - connected to pin 10
4	Identical output - connected to pin 10		12	Serial data line (SDA)
5	Ground		13	H. Sync / H+V
6	Red video ground		14	V. Sync (VCLK for DDC)
7	Green video ground		15	Data clock line (SCL)
8	Blue video ground			

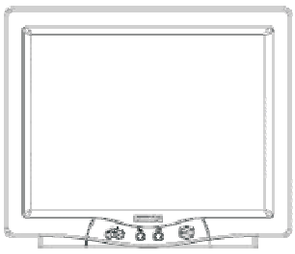


Installation

Front View



107E6/107G6/107V6

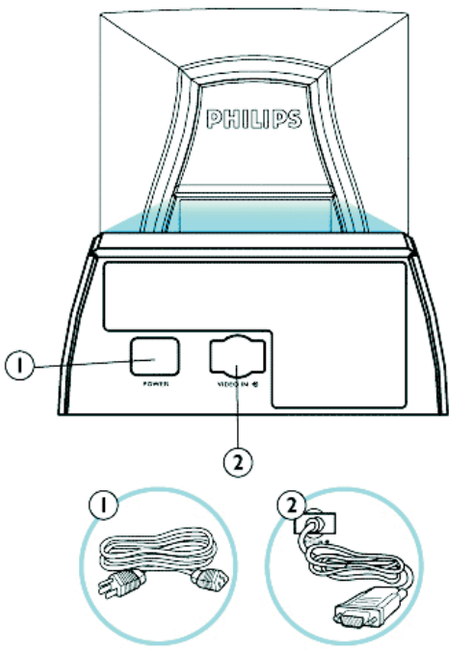


107C6/107F6/107T6

- Power button switches your monitor on.
- OK button which when pressed will take you to the OSD controls
- Contrast hotkey. When the "-" button is pressed, the adjustment controls for the CONTRAST will show up.
- Brightness hotkey. When the "+" button is pressed, the adjustment controls for BRIGHTNESS will show up.
- "-" and "+" buttons, are used for adjusting the OSD of your monitor.
- LightFrame™ hotkey. When the button is pressed, the high -brightness function of LightFrame will show up.

High Bright hot key delivers 4 suitable brightness instantly for text, internet, game and multimedia.

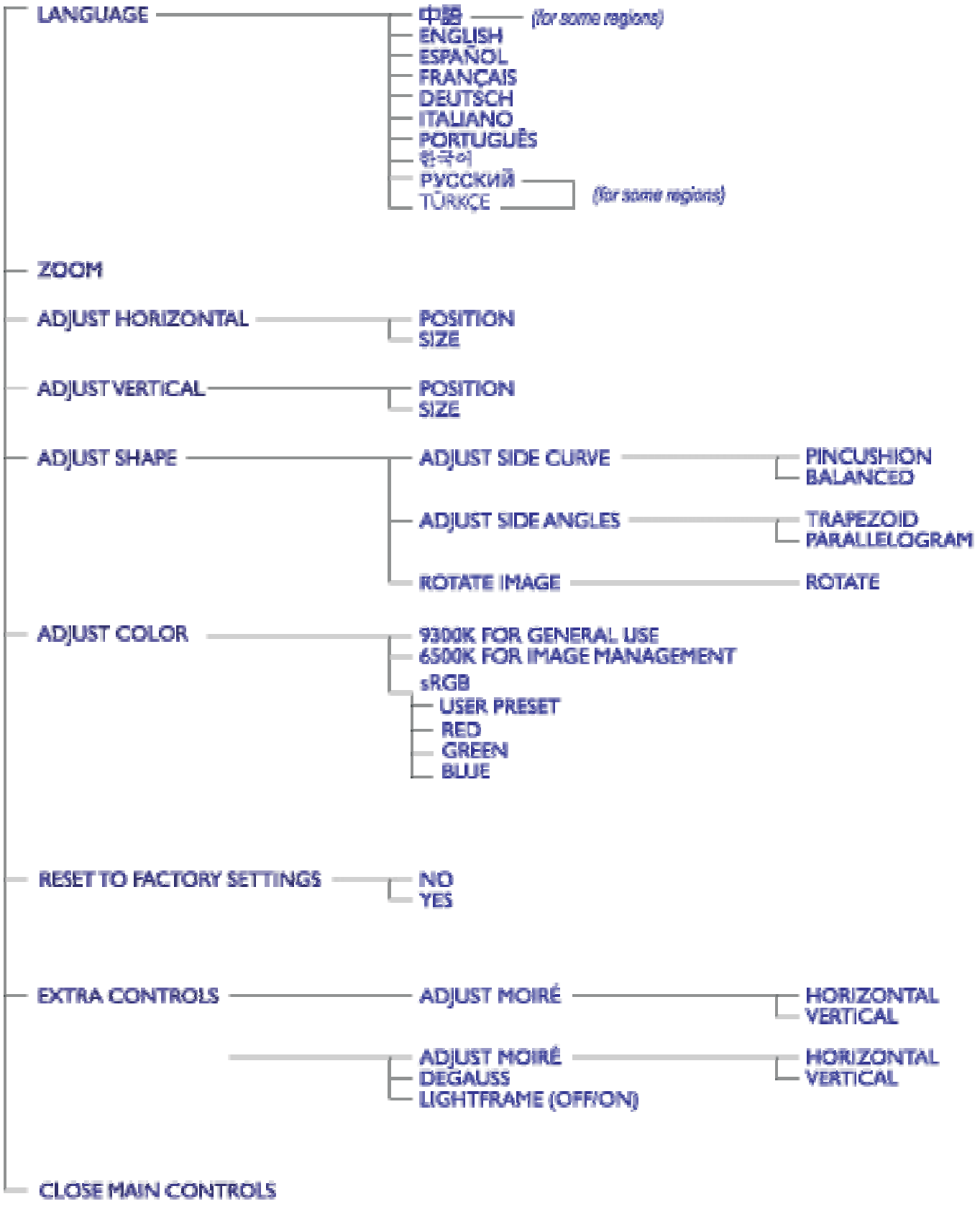
Rear View



1. Power in - attach power cable here.
2. Video In - this is a cable which is already attached to your monitor. Connect the other end of the cable to your PC.

OSD Tree

The OSD tree



* Specifications are subject to change without prior notice.

OSD Adjustments

The OSD Controls

BRIGHTNESS

To adjust your screen's brightness, follow the steps below. Brightness is the overall intensity of the light coming from the screen. A 50% brightness is recommended.

1) Press the button on the monitor. The BRIGHTNESS window appears.

2) Press the or button to adjust the brightness.

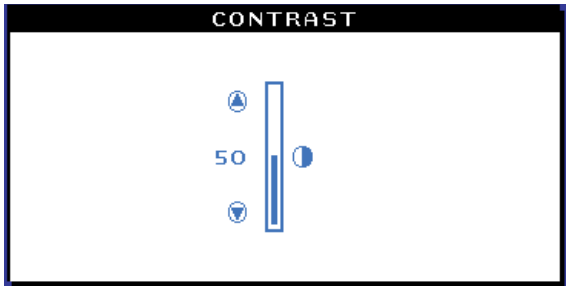
3) When the brightness is adjusted to the level desired. Stop pressing the or button and after three seconds the BRIGHTNESS window will disappear with the new adjustment saved.

Smart Help After the BRIGHTNESS window has disappeared, to continue to the CONTRAST window, follow the steps under CONTRAST.

CONTRAST

To adjust your screen's contrast, follow the steps bellow. Contrast is the difference between the light and dark areas on the screen. A 100% contrast is recommended.

1) Press the button on the monitor. The CONTRAST window appears.



2) Press the or button to adjust the contrast.

3) When the contrast is adjusted to the level desired, stop pressing the or button and after three seconds the CONTRAST window will disappear with the new adjustment saved.

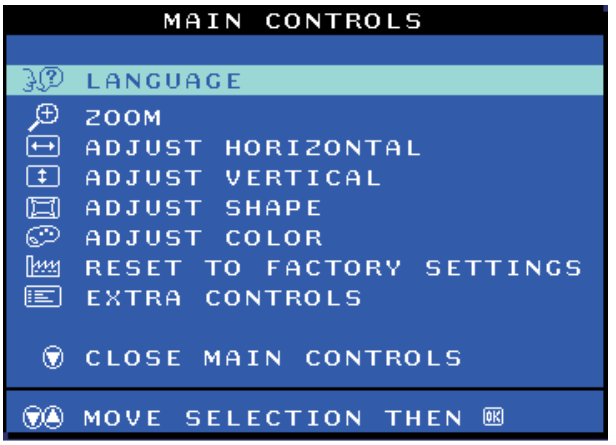
Smart Help After the CONTRAST window has disappeared, to continue to the MAIN CONTROLS, follow the steps under LANGUAGE.

LANGUAGE

The ON SCREEN DISPLAY shows its setting in one of eight languages. The default is English, but you can select French, Spanish, German, Italian, simplify-Chinese, Korea, Brazilian or Portuguese.

1) Press the button the monitor. The MAIN CONTROLS window appears. LANGUAGE should be highlighted.

2) Press the button again. The LANGUAGE window appears.



3) Press the or button until the desired language is highlighted.

4) press the button to confirm your selection and return to MAIN CONTROLS window. Close MAIN CONTROLS will be highlighted...

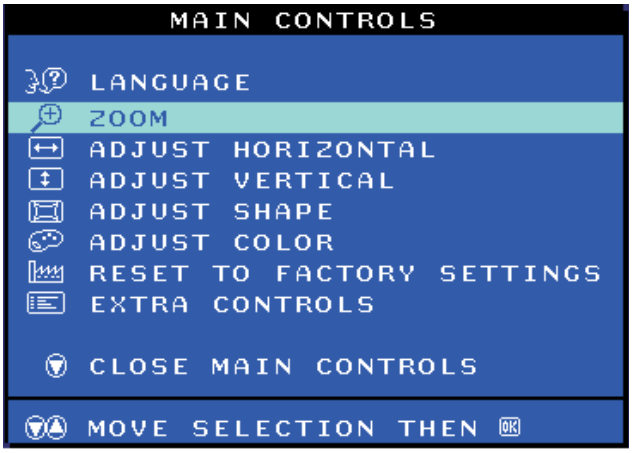
Smart Help After returning to MAIN CONTROLS.....to continue to ZOOM.

ZOOM

ZOOM increase or decrease the size of the images on your screen. To adjust the ZOOM follow the steps below.

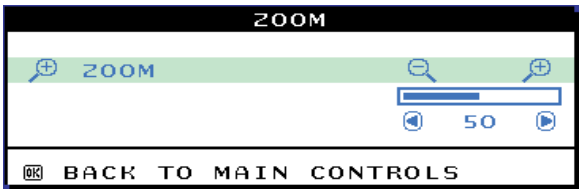
1) Press the button on the monitors. The MAIN CONTROLS window appears.

2) Press the or button until ZOOM is highlighted.



OSD Adjustments (Continued)

3) Press the button. The ZOOM window appears.



4) Press the or button to adjust ZOOM.

5) Press the button to confirm your selection and return to the MAIN CONTROLS window. Close MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS...
... to continue to ADJUST HORIZONTAL, press the or button until ADJUST HORIZONTAL is highlighted. Next, follow steps3-7 under ADJUST HORIZONTAL.
... To exit completely, press the button.

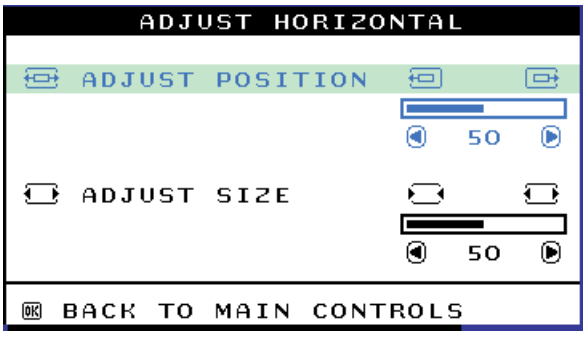
ADJUST HORIZONTAL

ADJUST HORIZONTAL under ADJUST HORIZONTAL shifts the image on your screen either to the left or right. Use this feature if your image does not appear centered. ADJUST SIZE under ADJUST HORIZONTAL expands or controls the image on your screen, pushing it out toward the left and right sides or pulling it in toward the center.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

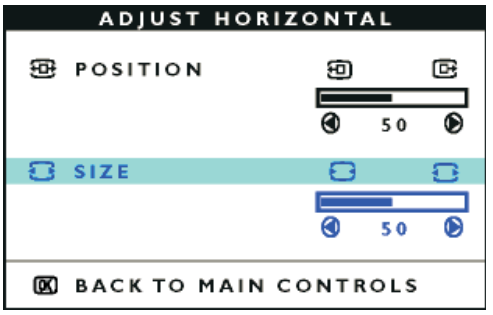
2) Press the or button until ADJUST HORIZONTAL is highlighted.

3) Press the button. The ADJUST HORIZONTAL window appears. ADJUST POSITION should be highlighted.



4) Press the or button to move the image to the left or right.

5) When the position is adjusted, press the button to return to MAIN CONTROLS window, or press the to highlight ADJUST SIZE.



6) To adjust the horizontal size, press the or button.

7) When the size is adjusted, press the button to return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS...
... To continue to ADJUST VERTICAL, press the button until ADJUST VERTICAL is highlighted. Next, start with step 3 under ADJUST VERTICAL and follow the directions.
...To exit completely, press the button.

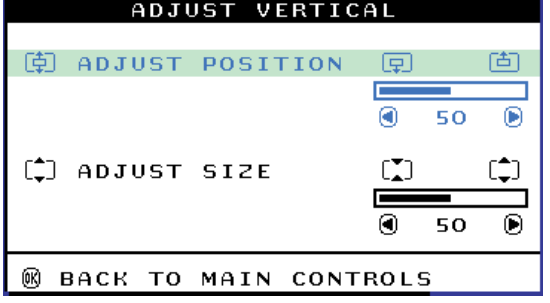
ADJUST VERTICAL

ADJUST POSITION under ADJUST VERTICAL shifts the image on your screen either up or down. Use this feature if your image does not appear centered. ADJUST VERTICAL expands or controls the image on your screen, pushing it out toward the top or bottom or pulling it in toward the center.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until ADJUST VERTICAL is highlighted.

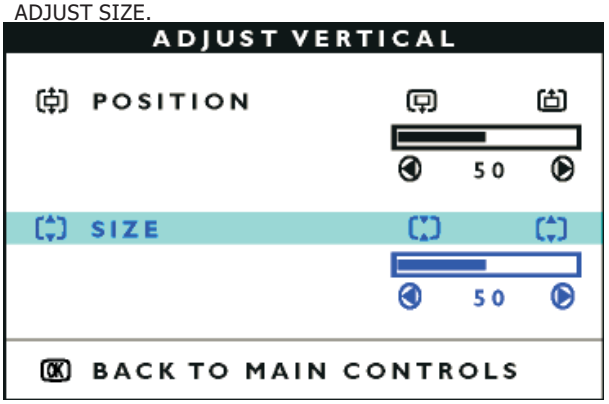
3) Press the button. The ADJUST VERTICAL window appears. ADJUST POSITION should be highlighted.



OSD Adjustments (Continued)

4) Press the − or + button to move the image up or down.

5) When the position is adjusted, press the ⋈ button to return to MAIN CONTROLS window, or press the + button to highlight ADJUST SIZE.



6) To adjust the vertical size, press the − or + button.

7) When the size is adjusted, press the ⋈ button to return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

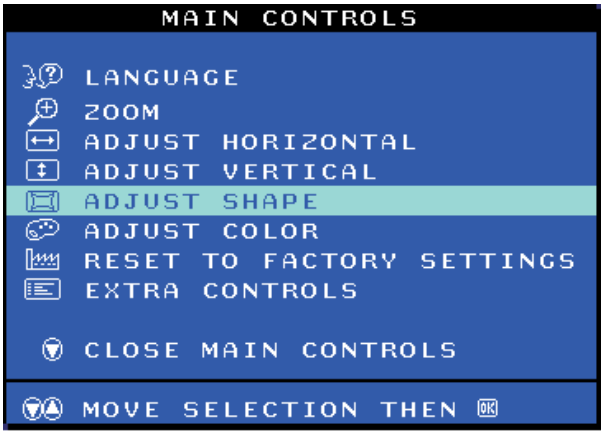
Smart Help After returning to MAIN CONTROLS...
... To continue to ADJUST SHAPE, press the − button until ADJUST SHAPE is highlighted. Next, start with step under ADJUST SHAPE and follow the directions.
... To exit completely, press the ⋈ button.

ADJUST SHAPE

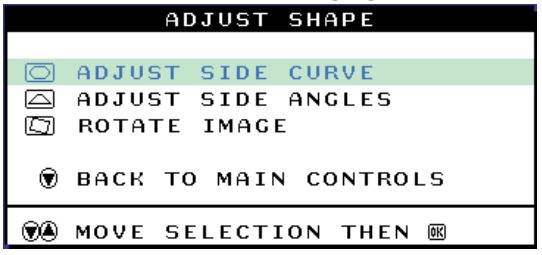
ADJUST SIDE CURVE
ADJUST SIDE CURVE under ADJUST SHAPE allows you to adjust two of the five preset options. These two options are PINCUSHION and BALANCED pincushion. Note: use these features only when the picture is not square.

1) Press the ⋈ button on the monitor. The MAIN CONTROLS window appears.

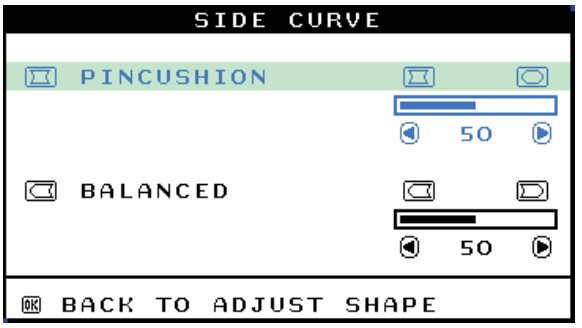
2) Press the + button until ADJUST SHAPE is highlighted.



3) Press the ⋈ button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.

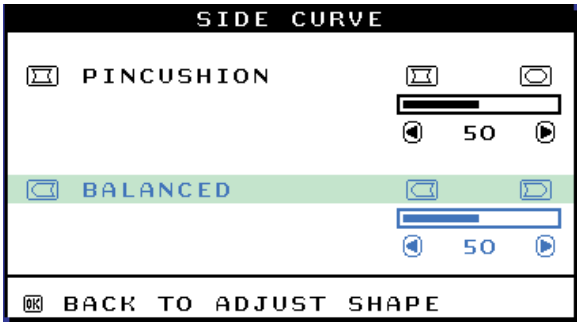


4) Press the ⋈ button. The SIDE CURVE window appears. PINCUSHION should be highlighted.



5) To adjust the pincushion, press the − or + button, then press the ⋈ button to save your selection.

6) When the pincushion is adjusted, press the − button to highlight BALANCE or press the ⋈ button to return to the ADJUST SHAPE window.



7) To adjust the balanced, press the − or + button.

8) When the balanced is adjusted, press the ⋈ button. BACK TO ADJUST SHAPE will be highlighted.

9) Press the ⋈ button to return to the ADJUST SHAPE window, then press the − button until ADJUST SIDE ANGLES is highlighted.

Smart Help After returning to MAIN CONTROLS...
... To continue to ADJUST SIDE ANGLES, start with step 5 under ADJUST SIDE ANGLES and follow the directions.

...To exit completely. Press the ⋈ button twice.

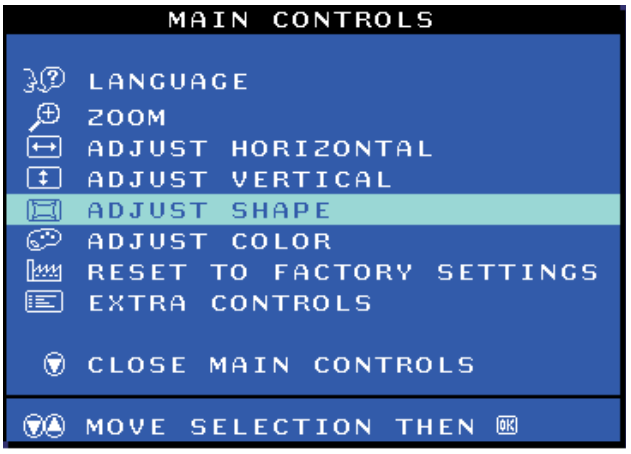
ADJUST SIDE ANGLES

ADJUST SIDE ANGLES under ADJUST SHAPE allows you to adjust two of the five preset options. These two options are TRAPEZOID and PARALLELOGRAM. Note: use these features only when the picture is not square.

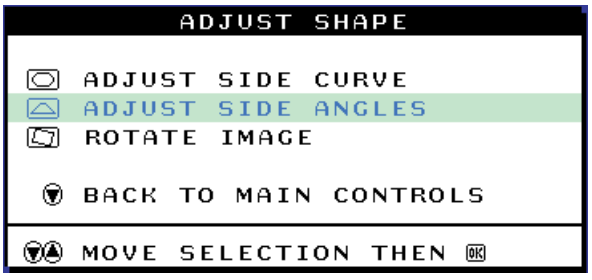
1) Press the ⋈ button on the monitor. The MAIN CONTROLS window appears.

2) Press the + button until ADJUST SHAPE is highlighted.

OSD Adjustments (Continued)

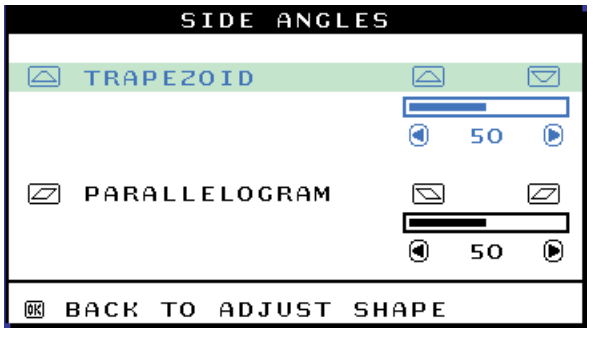


3) Press the button. The ADJUST SHAPE window appears.



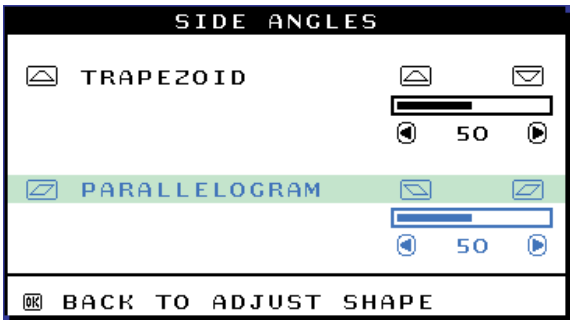
4) Press the button to highlight ADJUST SIDE ANGLES.

5) Press the button. The SIDE ANGLES window appears. TRAPEZOID should be highlighted.



6) To adjust the trapezoid, press the or button, then press the button to save your selection.

7) When the trapezoid is adjusted, press the button to highlight PARALLELOGRAM or press the button to return to the ADJUST SHAPE window.



8) To adjust the PARALLELOGRAM, press the or button.

9) When the parallelogram is adjusted, press the button to return to the ADJUST SHAPE window. BACK TO MAIN CONTROLS window will be highlighted.

10) Press the button to return to the MAIN CONTROLS window, or press the button until ROTATE IMAGE is highlighted.

Smart Help After returning to MAIN CONTROLS...
... To continue to ROTATE IMAGE, start with step 5 under ROTATE IMAGE and follow the directions.

...To exit a completely, press the button twice.

...To adjust only the PARALLELOGRAM, follow steps 1-4 above, then press the button, and follow steps 7-9

ROTATE IMAGE

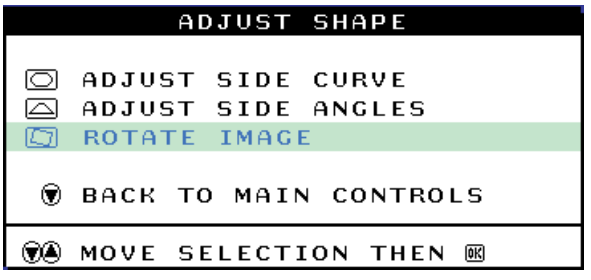
ROTATE IMAGE under ADJUST SHAPE allows you to adjust the rotated image. Note : use this feature only when the picture is not square.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until ADJUST SHAPE is highlighted.

3) Press the button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.

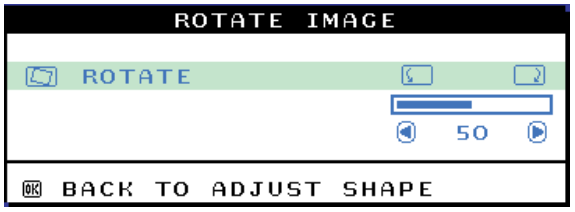
4) Press the button until ROTATE IMAGE is highlighted.



5) Press the button. The ROTATE IMAGE window appears. ROTATE will be highlighted.

6) To adjust the rotation, press the or button.

OSD Adjustments (Continued)



7) When the rotation is adjusted, press the button to return to the ADJUST SHAPE window. BACK TO MAIN CONTROLS should be highlighted.

8) Press the button to return to MAIN CONTROLS.

Smart Help After returning to MAIN CONTROLS...
... To continue to ADJUST COLOR, press the button until ADJUST COLOR is highlighted. Next, start with step 3 under ADJUST COLOR and follow the directions.

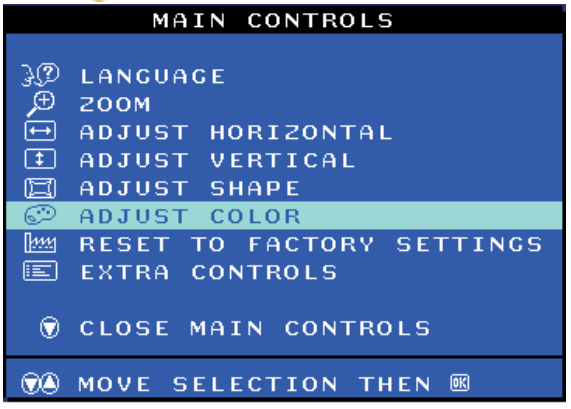
... To exit completely, press the button twice.

ADJUST COLOR

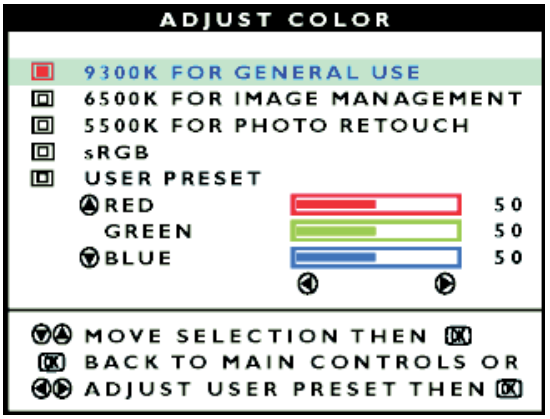
Your monitor has two preset options you can choose from. The first option is for GENERAL USE, which is fine for most applications. The second option is for GAMES, which is for playing computer games. When you select one of these options, the monitor automatically adjusts itself to that option. There is also a third option, USER PRESET, which allows you to adjust the colors on your screen to a setting you desire.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until ADJUST COLOR is highlighted.

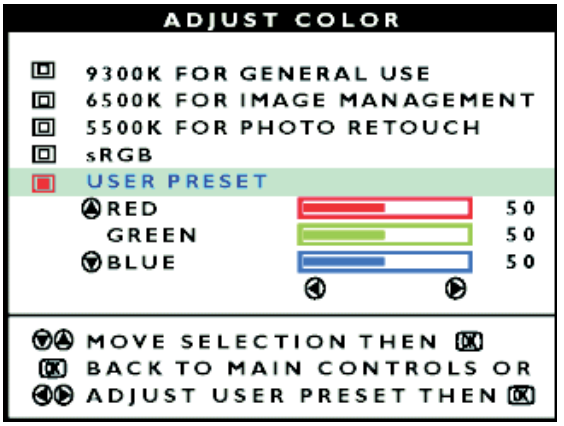


3) Press the button. The ADJUST COLOR window appears.



4) Press the or button to highlight 9300K for GENERAL USE. 6500K for GAMES, or USER PRESET.

5) Once you have highlighted the GENERAL USE OR GAMES, press the button to confirm your selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.



6) If USER PRESET is highlighted, press the button to highlight RED(GREEN BLUE). Next, press the or button to adjust the color red(green blue).

7) When all adjustments are complete, press the button until RESET TO FACTORY SETTINGS is highlighted. Next, start with step 3 under RESET TO FACTORY SETTINGS.
...To exit completely, press the button.

RESET TO FACTORY SETTINGS

RESET TO FACTORY SETTINGS returns everything in all the windows to factory presets.

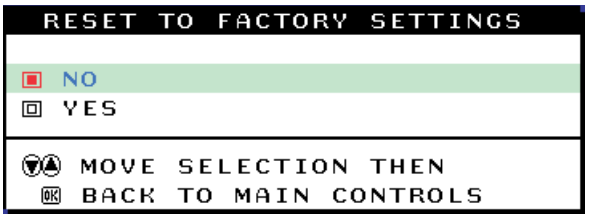
1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until RESET TO FACTORY SETTING is highlighted.

3) Press the button. The RESET TO FACTORY SETTINGS window appears.

4) Press the or button to select YES or NO. NO is the defaults. YES return all settings to their original factory adjustments.

OSD Adjustments (Continued)



5) Press the button to confirm your selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS...
... To continue to EXTRA CONTROLS, press the button until EXTRA CONTROLS is highlighted. Next, start with step 3 under EXTRA CONTROLS.

...To exit completely, press the button.

EXTRA CONTROLS

ADJUST MOIRE

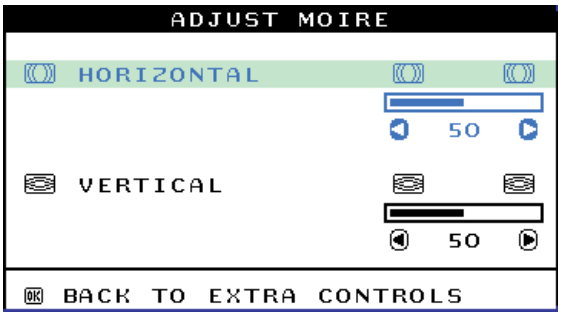
EXTRA CONTROLS is a set of three feature, including ADJUST MOIRE. Moire is a fringe patten arising from the interference between two superimposed line pattens. To adjust your moire, follow the steps below. Note: use only if necessary. By activating ADJUST MOIRE, sharpness can be affected.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until EXTRA CONTROLS is highlighted.

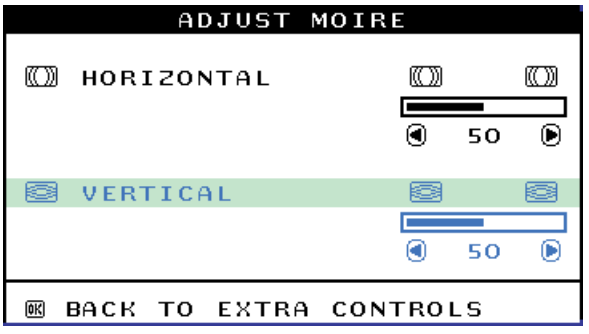
3) Press the button. The EXTRA CONTROLS window appears. ADJUST MOIRE will be highlighted.

4) Press the button. The ADJUST MOIRE window appears. HORIZONTAL will be highlighted.



5) To adjust the horizontal moire, press the or button.

6) When the horizontal moire is adjusted, press the button to highlight VERTICAL.



7) To adjust the vertical moire, press the or button.

8) When the vertical moire is adjusted, press the button to return to the EXTRA CONTROLS window. BACK TO MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS...
... To continue to DEGAUSS, press the button until DEGAUSS is highlighted. Next, start with step 3 under EXTRA CONTROLS, DEGAUSS.
...To exit completely, press the button.

DEGAUSS

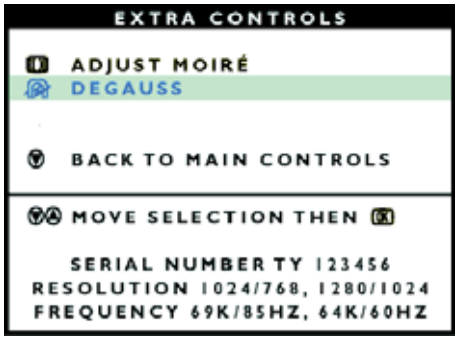
EXTRA CONTROLS is a set of three feature, including DEGAUSS. Degaussing remove electromagnetic build up that may distort the color on your screen.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until EXTRA CONTROLS is highlighted.

OSD Adjustments (Continued)

3) Press the button. The EXTRA CONTROLS window appears. ADJUST MOIRE will be highlighted.
4) Press the button until DEGAUSS is highlighted.



5) To degauss your screen, press the button. Your screen will be degaussed, then the MAIN CONTROLS will reappear. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS...
...To exit completely, press the button.

CLOSE MAIN CONTROLS

Monitor specific troubleshooting

Self-test Feature Check(STFC)

Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

1. Turn off both your computer and the monitor.
2. Unplug the video cable from the back of the computer.
3. Turn on the monitor.
   If the monitor is functioning properly, you will see a OSD message as shown in the following illustration:

This box also appears during normal system operation if the video cable becomes disconnected or damaged. This box will remain on for one minute, go off five seconds. Then on for one minute, and will repeat cycle.

1. Turn off your monitor and reconnect the video cable:
   then turn on both your computer and the monitor.
2. While in self-test mode, the LED remains green and the pattern remains on and stationary.

If your monitor screen still remains dark after you use the previous procedure, check your video controller and computer system; your monitor is functioning properly.

NO SIGNAL INPUT

If there is something wrong with the input signal, a message appears on the screen although the power indicator LED is still on. The message may indicate that the monitor is NO SIGNAL INPUT or that you need to check the signal cable.

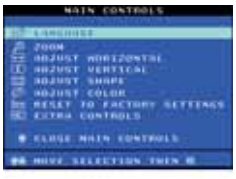
OSD Adjustments (Continued)

OSD LOCK

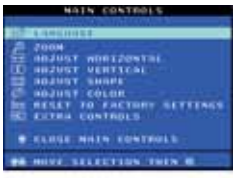
OSD LOCK is a feature which disables the OSD controls. It can be used when the monitor is set up for demonstration purposes or when adjustment of the OSD is not desirable.

Switch on OSD LOCK feature:

Press and hold the button continuously for 15 seconds.
Release the button when the message
" CONTROL MENU IS LOCKED" appears.



Switch off OSD lock feature:
Press and hold the button continuously for 15 seconds or until the message window "CONTROL MENU IS LOCKED"disappears. And "MAIN CONTROLS" appears.



To access factory mode
1. Turn off monitor(don't turn off PC)
2. Press and and simultaneously on the front control pane, then press , wait until the OSD menu with characters V32 107T6 V0.24 20040303 (below OSD menu) come on the screen of monitor.

3. If OSD menu disappears on the screen of monitor, press again(anytime), then the OSD menu comes on the screen again.

4. Using : to select OSD menu.
5. Using : to increase or decrease the setting.
6. Using : to access/confirm the selection.

To leave factory mode

7. After alignment of factory mode, turn off monitor(if you do not run off monitor, the OSD menu is always at the factory mode), then turn on monitor again (at this moment, the OSD menu goes back to user mode.)

To access BURN IN mode
First of all, monitor displays an image.
1. Disconnect the video cable(interface cable).
2. Turn off monitor
3. Press and and simultaneously on the front control panel, then the BURN IN mode comes on the screen of monitor as below.

50 seconds around

5 second around

repeat

4. Reconnect the video cable, then return the normal image.

SERVICE MODE (indication-factory mode)

Trouble shooting

Having this problem?	Check these items
No Picture (Power LED not lit)	Make sure the Power cable is plugged into the power outlet and back of the monitor. Power button on the front of your monitor should be in the ON position. Disconnect the monitor from the power outlet for about one minute.
No Picture (Power LED is flashing green)	Make sure the computer is turned on. Make sure the monitor cable is properly connected to your computer. Check to see if the monitor cable has bent pins. The Energy Saving feature may be activated
No Picture (Power LED is green)	Make sure the Brightness and Contrast controls are set correctly. Make sure the monitor cable is properly connected to your computer. Check to see if the monitor cable has bent pins. Make sure the computer Power button is on.
Screen doesn't show when you turn on the monitor	Make sure the monitor cable is properly connected to your computer. (Also refer to the Quick Start Guide). Check to see if the monitor cable has bent pins. Make sure the computer is turned on.
No color or intermittent color	If you are using a non-VESA-DDC standard video card, turn the DDC1 / 2B feature Off.
Color appears blotchy	The picture may need degaussing. Remove any nearby magnetic objects. Face the monitor toward the East for the best picture quality.
Missing one or more colors	Check the Color Temperature. Make sure the monitor cable is properly connected to your computer. Check to see if the monitor cable has bent pins.
Dim Picture	Adjust the Brightness and Contrast controls. Check your video card and it's owner's manual instructions for it may be a non-VESA-DDC Standard card.
Picture is too large or too small.	Adjust the Horizontal and/or Vertical Size. Adjust the Zoom.
Edges of the picture are not square.	Adjust the geometry.
Picture has a double image.	Eliminate the use of a video extension cable and/or video switch box. Face the monitor toward the East for the best picture quality.
Picture is not sharp.	Check to make sure Morie is switched off. Adjust Sync Input.
Problem with On Screen Display	Refer to the instructions and troubleshooting information in that chapter.
Unstable Picture	Increase your refresh rate.

0. General
To be able to perform measurements and repairs on the "circuit boards", these unit should placed in the service position first.

1. Remove the rear cover in Fig. 1 and Fig. 2.
-Remove 2 screws as shown
-Remove back cover as shown
-Remove pedestal as shown

2. Video panel
-Disconnect the wire between metal shield of video panel and CRT neck as shown in Fig. 3.
-Disconnect the CRT grounding from Video panel.
-Remove screw grounding and grounding wire in Fig. 4.

3. Main board connector in Fig. 5.
-Disconnect york wire
-Disconnect rotation connector
-Disconnect control board connector
-Remove Screw for fixed I/F cable
-Remove signal connector
-Remove degaussing wire connector

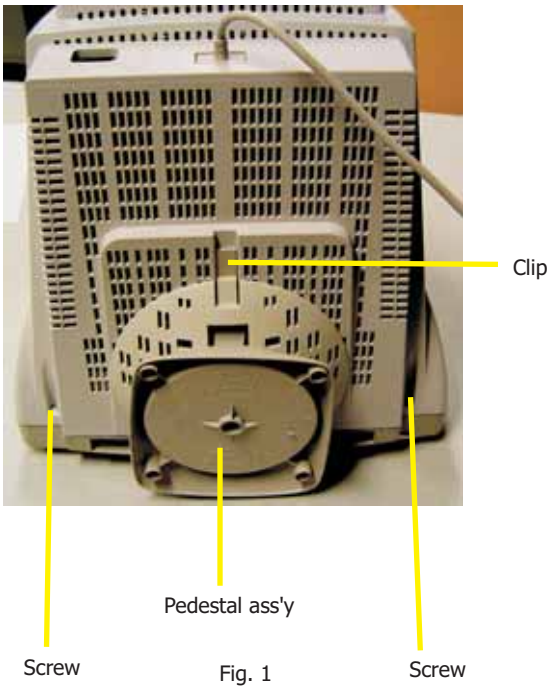


Fig. 1

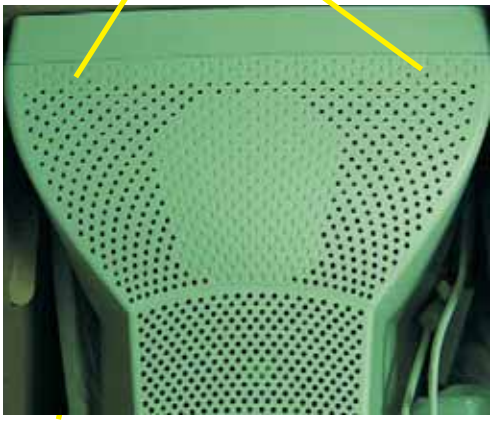


Fig. 2

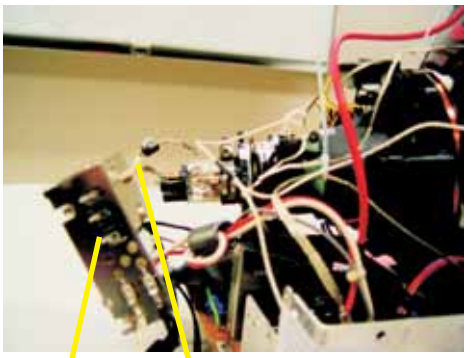


Fig. 3

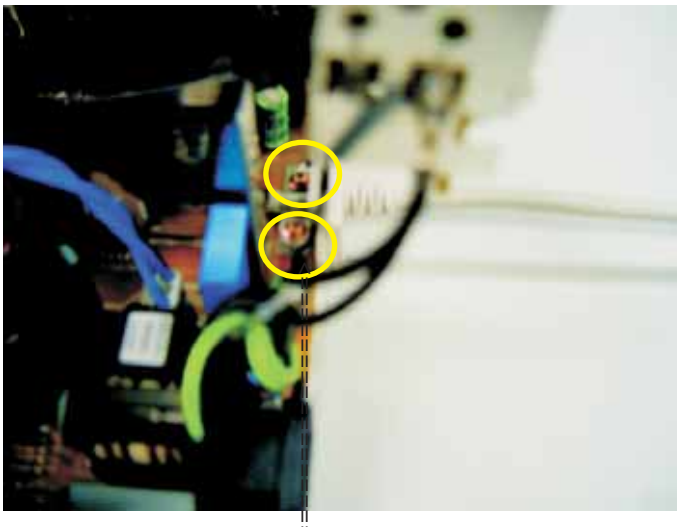


Fig. 4

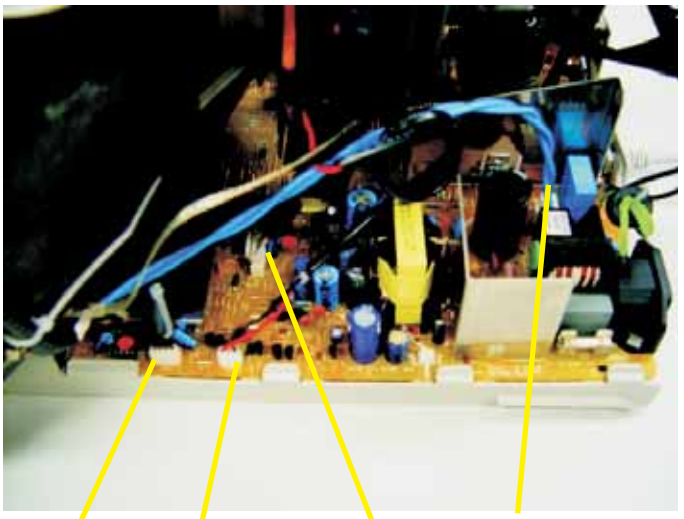


Fig. 5

Mechanical Instructions

4. Main panel with Bottom Tray
-Remove 2 screws for disconnect the Bottom tray as Fig. 6.
-Remove the bottom tray on press right and left side clip from fig. 7 to fig. 8.

5. SERVICE POSITION
-reconnect connectors, some wires and panels (chassis), service position can be available for DC/AC measurement as shown in Fig. 9.

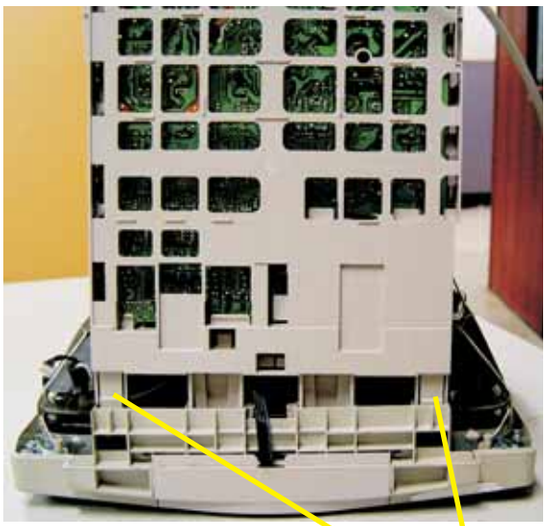


Fig. 8

Fig. 6

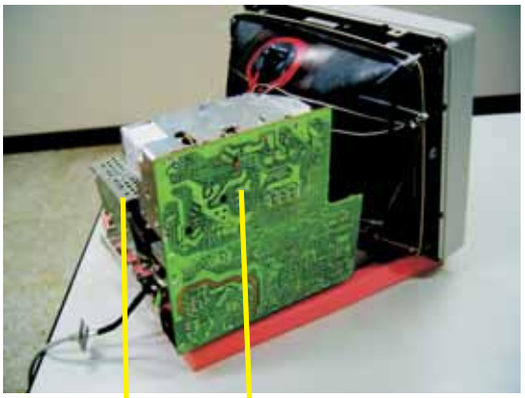


Fig. 9 SERVICE POSITION

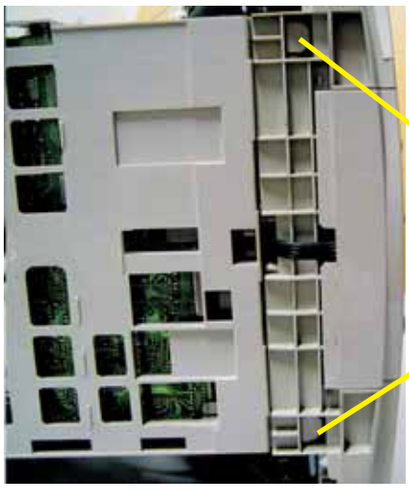


Fig. 6

ISP (In System Program)

Configuration and Procedure

ISP (In System Program) software is provided to upgrade the firmware of CPU.

System and equipment requirement:
1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system windows 95/98.
3. EDID 46.EXE program (12NC: 3138 106 10103) and ISP Software (12NC:3138 106 10375) (Provided in the CD-ROM SERVICE MANUAL)
4. Software DDC Alignment kits(3138 106 10079) shown as Fig. 1.
   The kit contents: a. Alignment box X 1
   b. Printer cable X 1
   c. (D-sub) to (D-sub) cable X 1
   d. (DVI-D) TO (D-sub) cable X 1

Fig. 1

Step 1. Installation of ISP Software

1. Make a folder in your computer as shown in Fig. 2. For example C:\107E6

2. Copy ISP Software(ISP.zip 12NC: 3138 106 10375) , EDID program (edid 46.exe 12NC:3138 106 10103) and Demic Code (Demic.hex) from the CD-ROM to C:\107E6.

3. Unzip the ISP.zip, and execute the "I2cHa32-Driver.exe" to install driver.

1) Bring up the window as shown in Fig. 2, click "I agree with the above terms and conditions", then click "next".

Fig. 2

2) Bring up the window as shown in Fig. 3, click "OK", which means you have already installed I2Cdriver successfully.

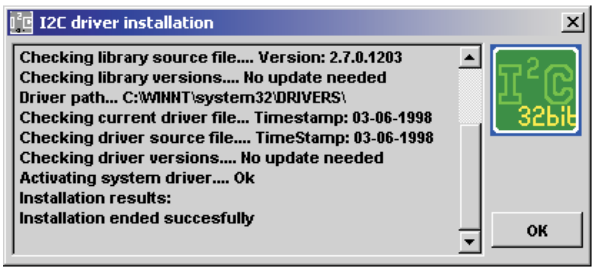

I2C driver installation
Checking library source file.... Version: 2.7.0.1203
Checking library versions.... No update needed
Driver path... C:\WINNT\system32\DRIVERS\
Checking current driver file... Timestamp: 03-06-1998
Checking driver source file.... TimeStamp: 03-06-1998
Checking driver versions.... No update needed
Activating system driver.... Ok
Installation results:
Installation ended succesfully
I2C 32bit
OK

Fig. 3

4. Execute the "Setup.exe" of the 107E6 folder to install execution file.

1) Bring up the window as shown in Fig. 4, click "OK".

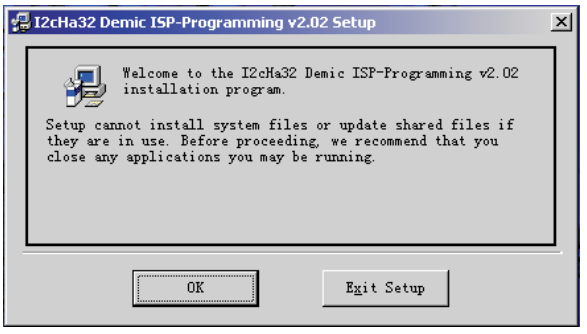

I2cHa32 Demic ISP-Programming v2.02 Setup
Welcome to the I2cHa32 Demic ISP-Programming v2.02 installation program.
Setup cannot install system files or update shared files if they are in use. Before proceeding, we recommend that you close any applications you may be running.
OK
Exit Setup

Fig. 4

2) Bring up the window as shown in Fig. 5, click the icon of the left side of the window to begin setup.

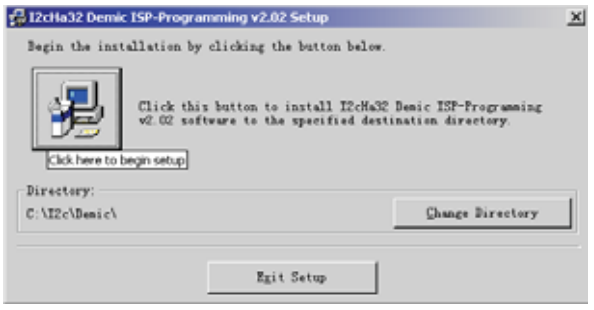

I2cHa32 Demic ISP-Programming v2.02 Setup
Begin the installation by clicking the button below.
Click this button to install I2cHa32 Demic ISP-Programming v2.02 software to the specified destination directory.
Click here to begin setup
Directory:
C:\I2c\Demic\
Change Directory
Exit Setup

Fig. 5

3) Bring up the window as shown in Fig. 6, click"continue".

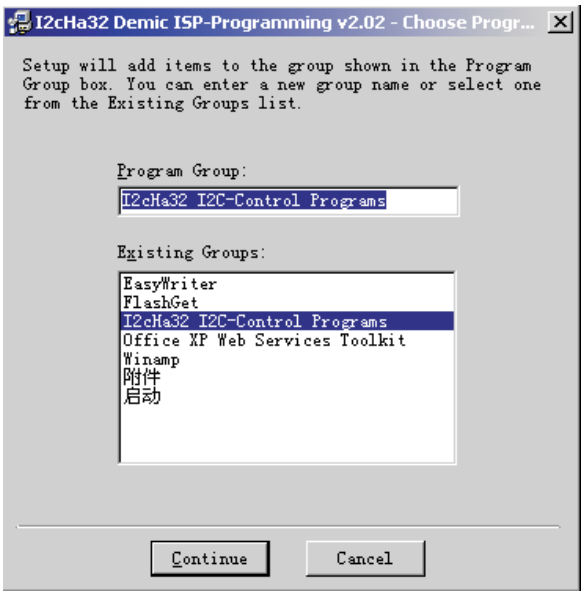

I2cHa32 Demic ISP-Programming v2.02 - Choose Progr...
Setup will add items to the group shown in the Program Group box. You can enter a new group name or select one from the Existing Groups list.
Program Group:
I2cHa32 I2C-Control Programs
Existing Groups:
EasyWriter
FlashGet
I2cHa32 I2C-Control Programs
Office XP Web Services Toolkit
Winamp
附件
启动
Continue
Cancel

Fig. 6

4) Bring up the window as shown in Fig. 7, which means you have setup the ISP-Programming successfully, click "ENTER" to confirm it.

Fig. 7

ISP (In System Program)

Step 2. Run EDID46 program.

1. Click Start choose Run at start menu of Windows95/98 as shown in Fig. 13.

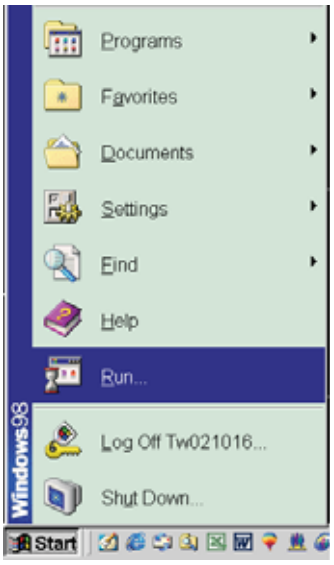


Fig. 13

2. At the submenu, type the path of EDID46 (For example, C:\107E6\EDID46.exe, as shown in Fig. 14).

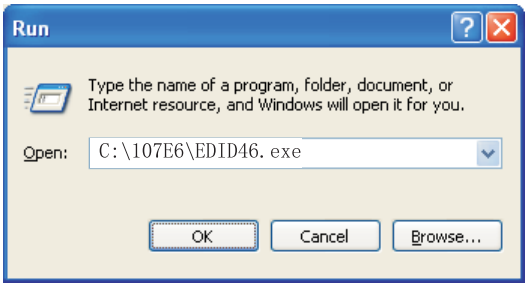


Fig. 14

3. Click OK button. The main menu appears (as shown in Fig. 15). This is for initialize alignment box.

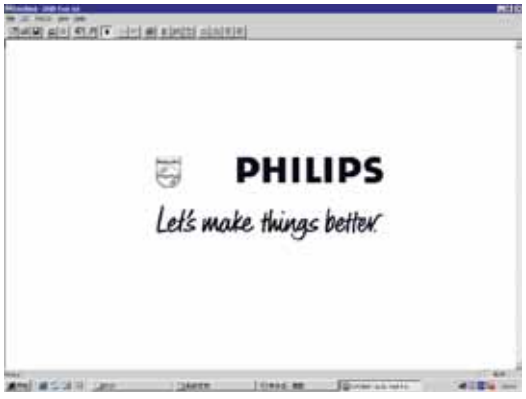


Fig. 15

Step 4. Connecting all cables and box as shown in Fig. 16.

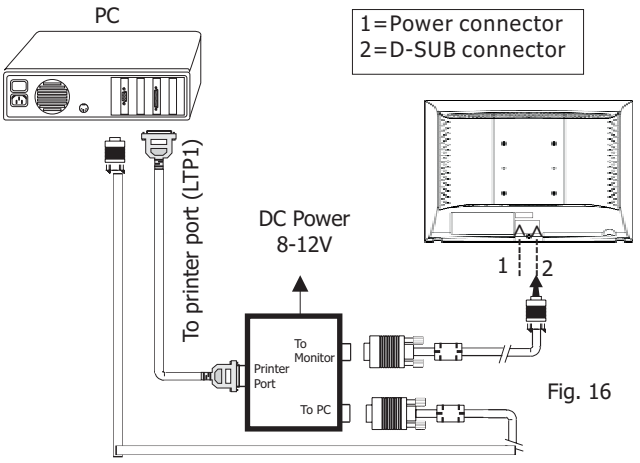


Fig. 16

Note: Before you connect all the cables and box, you must execute EDID46.exe (substeps 5 to 7) firstly, otherwise, after you connected the alignment kits, the following warning message will appear on the screen as shown in Fig. 17.

Fig. 17

Step 3. Load Hex file and input the bootcode.

1. Click Start, choose programs at start menu of Windows95/98 , find I2cHaI2c-Control Programs as shown in Fig. 8.

Fig. 8

2. Click the "I2cHaI2c-Control Programs",bring up the below window as shown in Fig. 9.

Fig. 9

3. Click Bootcode-string, choose the third row and input the following codes "0x6e, 0x42, 0x41, 0x43, 0x4b, 4x74, 0x6f, 0x42, 0x4f, 0x4f, 0x54", then click "close window"(Fig. 10)

Fig. 10

4. Click "load file", bring up the following window as shown in Fig 11.

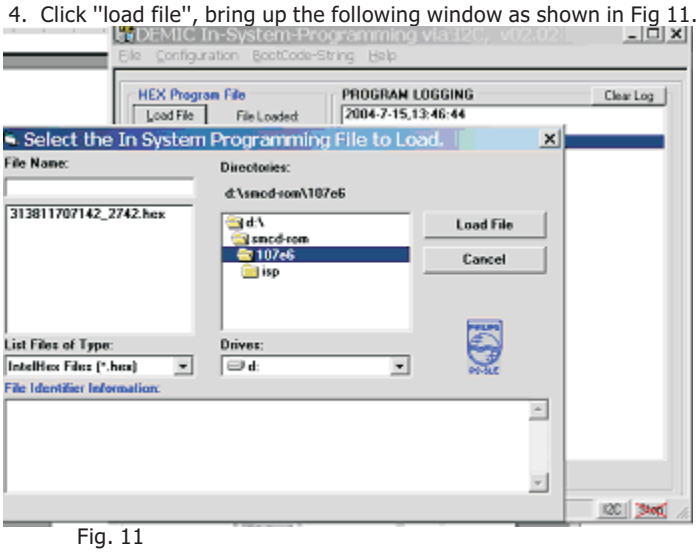


Fig. 11

5. Choose the Demic. Hex from C:\107E6, the left side of the window will show the file name"313811707142...hex", click "3138117...hex" of the left side of the window, then click "Load file",shown as Fig. 12.

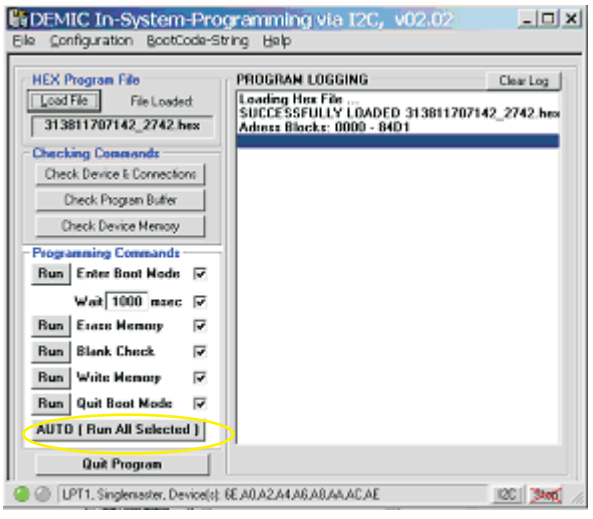


Fig. 12

Step 5: Upgrade the firmware

Choose all the items of the Programming commands, then click "AUTO (Run All Selected)", the software will upgrade the firmware, the LED will extinguish several seconds, after finished the upgrade, the monitor will stand-up automatically. Bring up the window as shown in Fig. 18,which means you have finished the upgrade successfully.

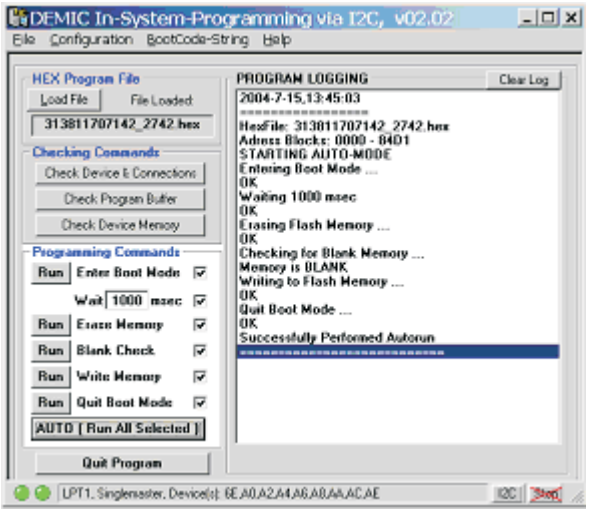


Fig. 18

Click"Quit Program", quit the program.

Turn off the monitor, then press − + and ↻ simultaneously till the LED light, then press osd button, bring up MAIN CONTROLS. You will find, after upgrade, the version have already changed As Shown in Fig. 19.

Factory Mode---------- Indicator

Fig. 19

Turn off the monitor to exit the factory mode.

DDC Instructions

General

DDC Data Re-programming
In case the DDC data memory IC or main EEPROM which storage all factory settings were replaced due to a defect, the serial numbers have to be re-programmed"Analog DDC IC, & EEPROM".
It is advised to re-soldered DDC IC and main EEPROM from the old board onto the new board if circuit board have been replaced, in this case the DDC data does not need to be re-programmed.

Additional information
Additional information about DDC (Display Data Channel) may be obtained from Video Electronics Standards Association (VESA). Extended Display Identification Data(EDID) information may be also obtained from VESA.

System and equipment requirements

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98 .
   You have to Install the EDID_PORT_Tool under Win2000/XP . As Fig. 1 .

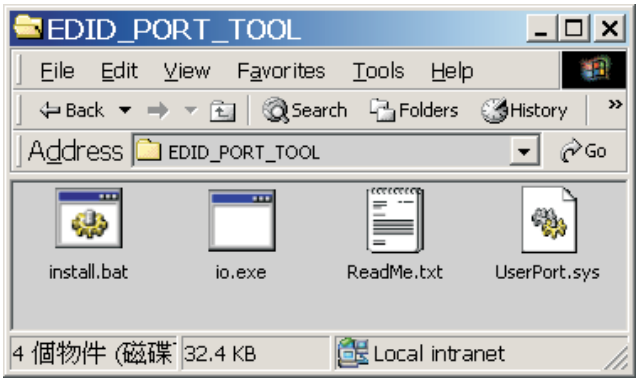


Fig. 1

A. Cody the "UserPort.sys" to C:\WINNT\system32\drivers(win2000)

C:\WINDOWS\system32\drivers(winXP)

B. Running " io.exe" everytime, Before you start to programming edid data .

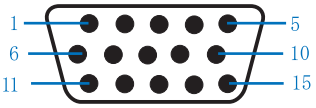
3. EDID301.EXE program .

4. A/D Alignment kits (12NC: 3138 106 10079) shown as Fig. 2:
   inclusion : a. Alignment box x1

Fig. 2

b. Printer cable x1
c. (D-Sub) to (D-Sub) cable x1

Note: The EDID46.EXE is a windows-based program, which cannot be run in MS-DOS.



Pin assignment

15-pin D-Sub Connector

Pin No.	IBM II standard
1	Red video input
2	Green video input
3	Blue video input
4	Gnd
5	For self-test (pc gnd)
6	Red video ground
7	Green video ground
8	Blue video ground
9	DDC5V from PC
10	Gnd
11	Gnd
12	Bidirectional Data (SDA)
13	H. SYNC
14	V. SYNC (VCLK)
15	Data clock (SCL)

Configuration and procedure

There is no Hardware DDC (DDC IC) anymore. Main EEPROM stores all factory settings and DDC data (EDID code) which is also called Software DDC. The following section describes the connection and procedure for Software DDC application. The main EEPROM can be re-programmed by enabling " factory memory data write" function on the DDC program (EDID301.EXE).

Initialize alignment box

In order to avoid that monitor entering power saving mode due to sync will cut off by alignment box, it is necessary to initialize alignment box before running programming software (EDID301.EXE). Following steps show you the procedures and connection.

Step 1: Supply 8-12V DC power source to the Alignment box by plugging a DC power cord .
Step 2: Connecting printer cable and D-Sub cable of monitor as Fig. 3

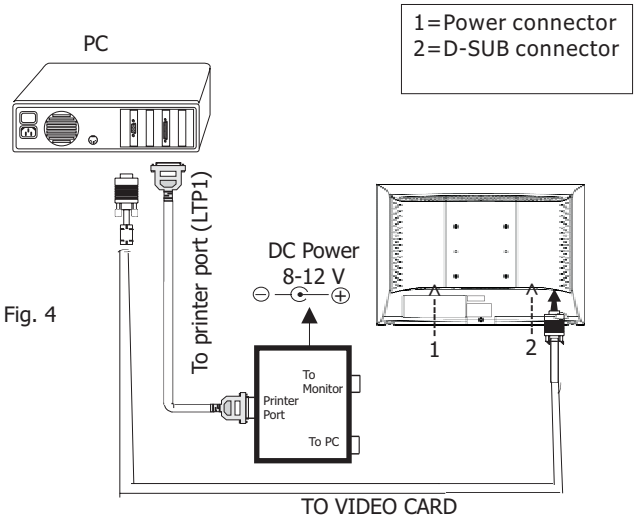


Fig. 4

Fig. 3

Step 3: Installation of EDID301.EXE

Method 1: Start on DDC program

Start Microsoft Windows.

1. The Program"EDID301.EXE" in service manual cd-rom be copyed to C:\ .
2. Click Start , choose Run at start menu of Windows as shown In Fig. 4.

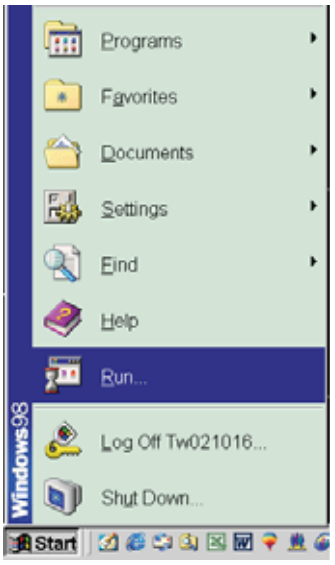


Fig. 4

3. At the submenu, type the letter of your computer's hard disk drive followed by :EDID46 (for example, C:\EDID301, as shown in Fig. 5).

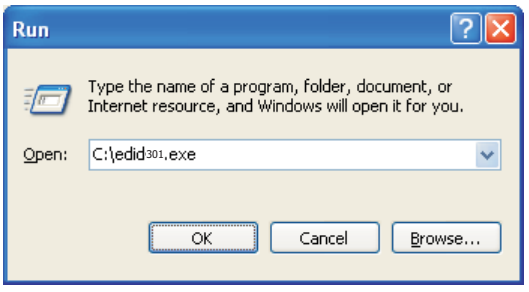


Fig. 5

4. Click OK button. The main menu appears (as shown in Fig. 6). This is for initialize alignment box.

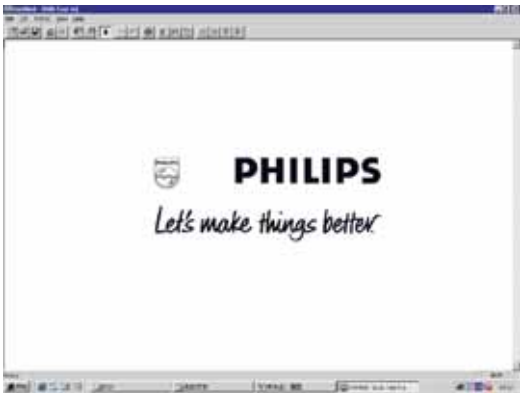


Fig. 6

Note 1: If the connection is improper, you will see the following error message (as shown in Fig. 7) before entering the main menu. Meanwhile, the (read EDID) function will be disable. At this time, please make sure all cables are connected correctly and fixedly, and the procedure has been performed properly.

Fig. 7

Note 2: During the loading, EDID301 will verify the EDID data which just loaded from monitor before proceed any further function, once the data structure of EDID can not be recognized, the following error message will appear on the screen as below. Please confirm following steps to avoid this message.

1. The data structure of EDID was incorrect.
2. DDC IC that you are trying to load data is empty.
3. Wrong communication channel has set at configuration setup windows.
4. Cables loosed or poor contact of connection.

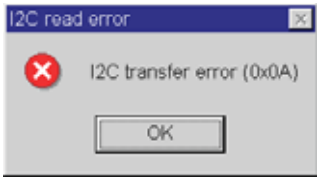


Fig. 8

Re-programming EEPROM(Software DDC IC)

Step 1: After initialize alignment box, connecting all cables and box as shown in Fig. 9

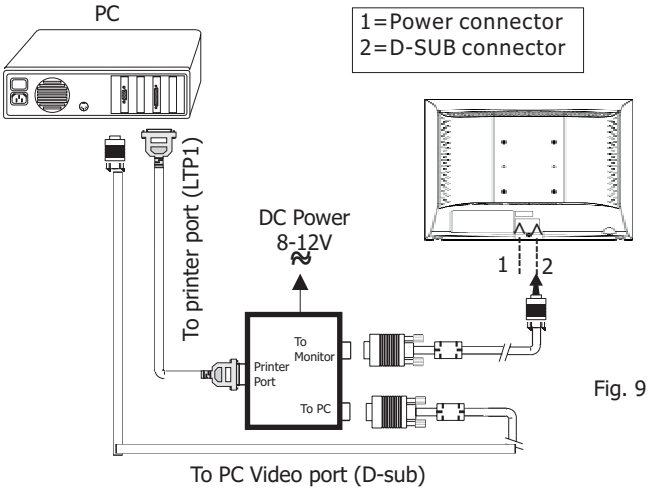


Fig. 9

Step 2: Read DDC data from monitor

1. Click icon as shown in Fig. 10 from the tool bar to bring up the Channels "Configuration Setup" windows as shown in Fig. 11.

Fig. 10

DDC Instructions (Continued)

2. Select the DDC2B as the communication channel.
And software DDC only As shown in Fig. 11.

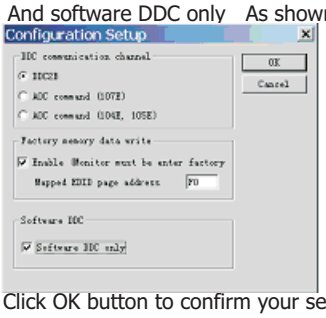


Fig. 11

3. Click OK button to confirm your selection.

4. Click icon (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 12.

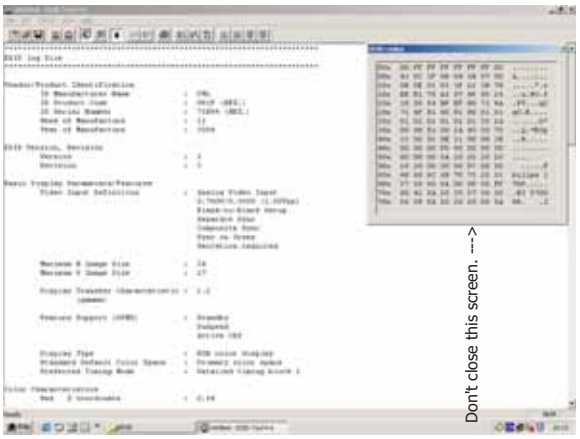


Fig. 12

Step 3: Modify DDC data (verify EDID version, week, year)

1. Click (new function) icon from the tool bar, bring up Step 1 of 9 as shown in Fig. 13 .
EDID301 DDC application provides the function selection and text change (select & fill out) from Step 1 to Step 9.

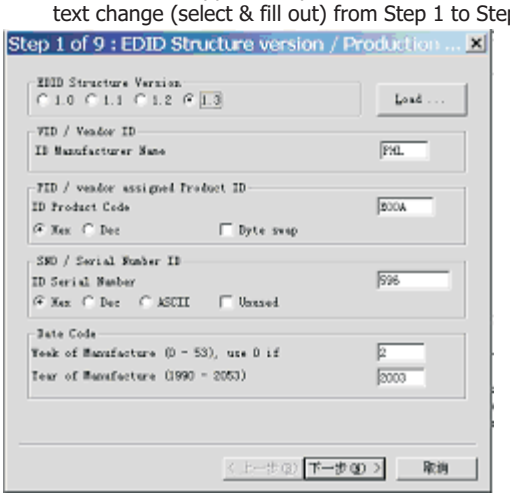


Fig. 13

Step 4: Modify DDC data (Monitor Serial No.)

1. Click Next , bring up Fig. 14.

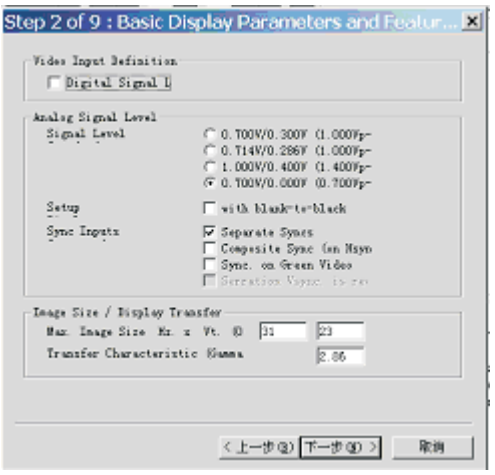


Fig. 14

2. Click Next , bring up Fig. 15.

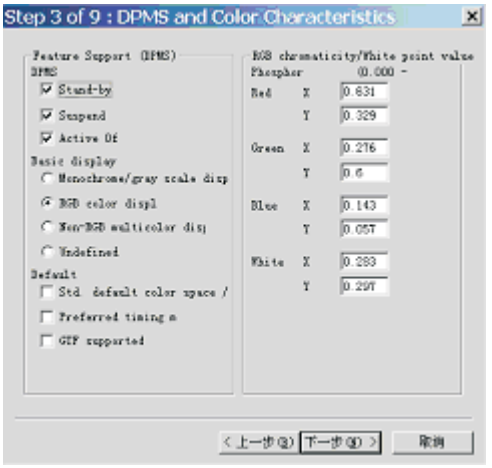


Fig. 15

3. Click Next , bring up Fig. 16.

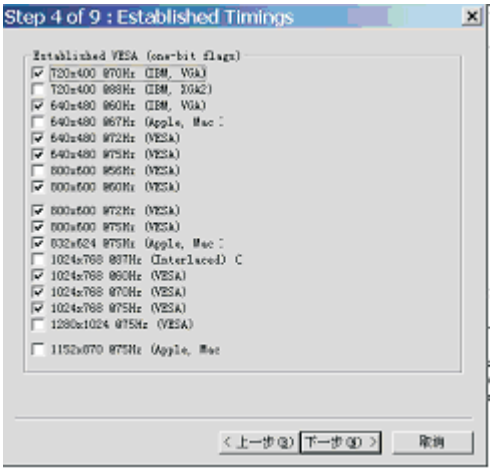


Fig. 16

4. Click Next , bring up Fig. 17.

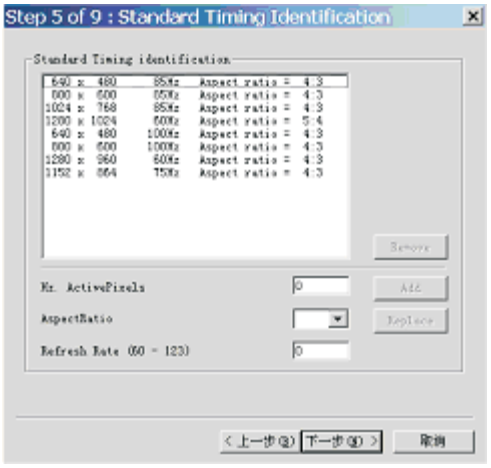

Step 5 of 9 : Standard Timing Identification
Standard Timing identification
640 x 480 85Hz Aspect ratio = 4:3
800 x 600 85Hz Aspect ratio = 4:3
1024 x 768 85Hz Aspect ratio = 4:3
1280 x 1024 60Hz Aspect ratio = 5:4
640 x 480 100Hz Aspect ratio = 4:3
800 x 600 100Hz Aspect ratio = 4:3
1280 x 960 60Hz Aspect ratio = 4:3
1152 x 864 75Hz Aspect ratio = 4:3
Remove
Hz ActivePixels
AspectRatio
Refresh Rate (60 - 123)
Add
Replace
< 上一步(B)
下一步(N) >
取消

Fig. 17

5. Click Next , bring up Fig. 18.

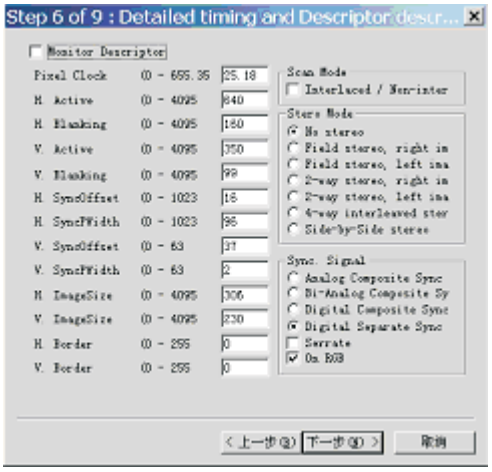

Step 6 of 9 : Detailed timing and Descriptor descr...
Monitor Descriptor
Pixel Clock (0 - 655.35) 25.18
H Active (0 - 4095) 640
H Blanking (0 - 4095) 160
V Active (0 - 4095) 350
V Blanking (0 - 4095) 99
H SyncOffset (0 - 1023) 16
H SyncPWidth (0 - 1023) 96
V SyncOffset (0 - 63) 37
V SyncPWidth (0 - 63) 2
H ImageSize (0 - 4095) 306
V ImageSize (0 - 4095) 230
H Border (0 - 255) 0
V Border (0 - 255) 0
Scan Mode
Interlaced / Noninter
Stere Mode
No stereo
Field stereo, right im
Field stereo, left ima
2-way stereo, right im
2-way stereo, left ima
4-way interleaved ster
Side-by-Side stereo
Sync Signal
Analog Composite Sync
Bi-Analog Composite Sy
Digital Composite Sync
Digital Separate Sync
Serrate
On RGB
< 上一步(B)
下一步(N) >
取消

Fig. 18

8. Click Next , bring up Fig. 19.
   - Serial number can be filled up at this moment (for example, TY 000812).

Fig. 19

7. Click Next , bring up Fig. 20.

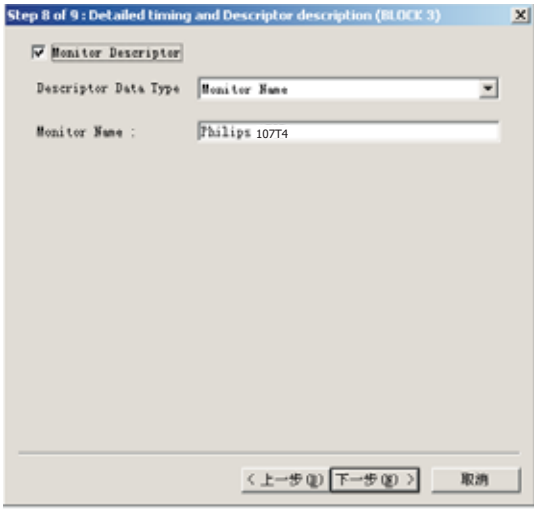


Fig. 20

8. Click Next , bring up Fig. 21.
   - Click Finish to exit the Step window.

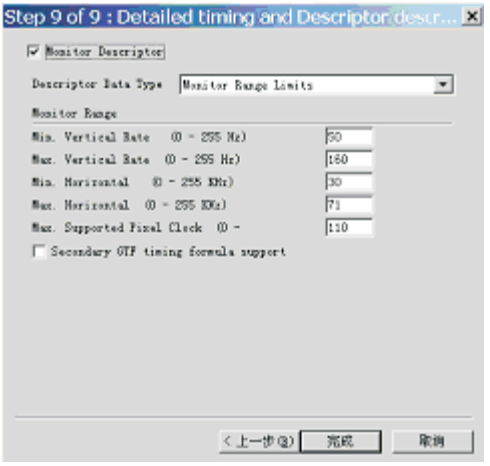

Step 9 of 9 : Detailed timing and Descriptor descr...
Monitor Descriptor
Descriptor Data Type
Monitor Range Limits
Monitor Range
Min. Vertical Rate (0 - 255 Hz)
Max. Vertical Rate (0 - 255 Hz)
Min. Horizontal (0 - 255 KHz)
Max. Horizontal (0 - 255 KHz)
Max. Supported Pixel Clock (0 -
Secondary GTF timing formula support
< 上一步(B)
完成
取消

Fig. 21

Step 5: Write DDC data

1. Configuration should be as Fig. 22. And press OK.

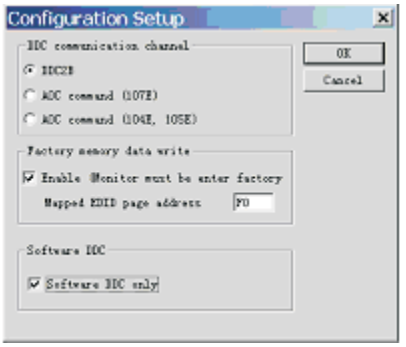


Fig. 22

NOTE:If you do not select "Software DDC only", when you execute "write EDID", it will bring up an error message as below.

DDC Instructions (Continued)

2. Access Factory Mode

1). Turn off monitor.

2). [Push " " & " " buttons at the same time and hold it] + [Press power " " button untill comes out "Windows screen"] => then release all button, then press , wait until the OSD menu with
Characters V32 107T6 V0.24 20040303 (below OSD menu) come on the Screen of the monitor (see Fig. 23).

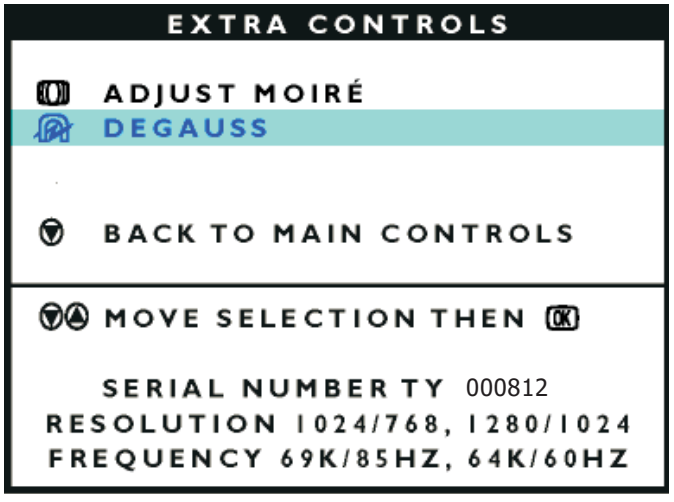
Factory Mode---------- Indicator

Fig. 23

3. Click (Write EDID) icon from the tool bar to write DDC data.

Fig.24

4. Confirm Serial Number in User Mode
1) Press the button to turn off the monitor. Press the button again to turn on the monitor.
2) Press the button to bring up the OSD main menu.
3) Press the button to select Extra Controls, press the button to confirm your selection.
4) Confirm the Serial Number "TY 000812" is updated as shown in Fig. 25.



Step 6: Save DDC data
Sometimes, you may need to save DDC data as a text file for using in other IC chip. To save DDC data, follow the steps below:

1. Click (Save) icon (or click "file"-> "save as") from the tool bar And give a file name as shown in Fig. 25.
The file type is EDID301 file (*.ddc) which can be open in WordPad. By using WordPad, the texts of DDC data & table (128 bytes, hex code) can be modified. If DDC TEXTS & HEX Table are completely correct, it can be saved as .ddc flie to re-load it into DDC IC for DDC Data application.

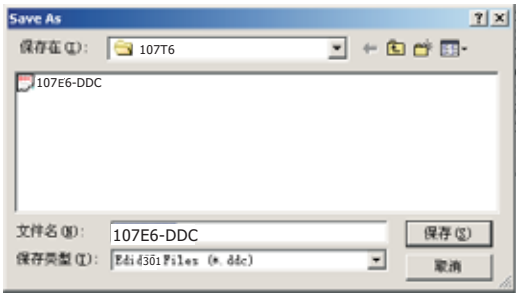


Fig. 25

2. Click Save.

Step 7: Exit DDC program

Pull down the File menu and select Exit as shown in Fig. 26.

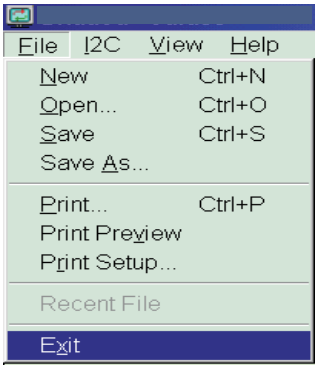


Fig. 26

```
************************************************************************
                    EDID log file (LG tube)
************************************************************************
Vendor/Product Identification
        ID Manufacturer Name        : PHL
        ID Product Code             : 0018 (HEX.)
        ID Serial Number            : 1E240 (HEX.)
        Week of Manufacture         : 19
        Year of Manufacture         : 2004
EDID Version, Revision
        Version                     : 1
        Revision                    : 3
Basic Display Parameters/Features
        Video Input Definition      : Analog Video Input
                                      0.700V/0.000V (0.70Vpp)
                                      without Blank-to-Black Setup
                                      Separate Sync
                                      without Composite Sync
                                      without Sync on Green
                                      no Serration required
        Maximum H Image Size        : 31
        Maximum V Image Size        : 23
        Display Transfer Characteristic : 2.83
                (gamma)
        Feature Support (DPMS)      : no Standby
                                      no Suspend
                                      Active Off
        Display Type                : RGB color display
Color Characteristics
        Red   X coordinate          : 0.632
        Red   Y coordinate          : 0.33
        Green X coordinate          : 0.273
        Green Y coordinate          : 0.605
        Blue  X coordinate          : 0.142
        Blue  Y coordinate          : 0.063
        White X coordinate          : 0.283
        White Y coordinate          : 0.297
Established Timings
        Established Timings I       : 720 x 400 @70Hz (IBM,VGA)
                                      640 x 480 @60Hz (IBM,VGA)
                                      640 x 480 @72Hz (VESA)
                                      640 x 480 @75Hz (VESA)
                                      800 x 600 @60Hz (VESA)
Established Timings II      : 800 x 600 @72Hz (VESA)
                                      800 x 600 @75Hz (VESA)
                                      832 x 624 @75Hz (Apple,Mac II)
                                      1024 x 768 @60Hz (VESA)
                                      1024 x 768 @70Hz (VESA)
                                      1024 x 768 @75Hz (VESA)
        Manufacturer's timings      :
Standard Timing Identification #1
        Horizontal active pixels    : 640
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #2
        Horizontal active pixels    : 800
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #3
        Horizontal active pixels    : 1024
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #4
        Horizontal active pixels    : 1280
        Aspect Ratio                : 5:4
        Refresh Rate                : 60

Standard Timing Identification #5
        Horizontal active pixels    : 640
        Aspect Ratio                : 4:3
        Refresh Rate                : 100

Standard Timing Identification #6
        Horizontal active pixels    : 800
        Aspect Ratio                : 4:3
        Refresh Rate                : 100

Standard Timing Identification #7
        Horizontal active pixels    : 1280
        Aspect Ratio                : 4:3
        Refresh Rate                : 60

Standard Timing Identification #8
        Horizontal active pixels    : 1152
        Aspect Ratio                : 4:3
        Refresh Rate                : 75

Detailed Timing #1
        Pixel Clock (MHz)           : 25.18
        H Active (pixels)           : 640
        H Blanking (pixels)         : 160
        V Active (lines)            : 350
        V Blanking (lines)          : 99
        H Sync Offset (F Porch) (pixels): 16
        H Sync Pulse Width (pixels) : 96
        V Sync Offset (F Porch) (lines) : 37
        V Sync Pulse Width (lines)  : 2
        H Image Size (mm)           : 306
        V Image Size (mm)           : 230
        H Border (pixels)           : 0
        V Border (lines)            : 0
        Flags                       : Non                -interlaced
                                    : Normal Display, No stereo
                                    : Digital Separate sync.
                                    : Negative Vertical Sync.
                                    :    Positive Horizontal Sync.
Monitor Descriptor #2
        Serial Number               : TY  123456

Monitor Descriptor #3
        Monitor Name                : PHILIPS 107E6
Monitor Descriptor #4
        Monitor Range Limits
        Min. Vt rate Hz             : 50
        Max. Vt rate Hz             : 160
        Min. Horiz. rate kHz        : 30
        Max. Horiz. rate kHz        : 71
        Max. Supported Pixel        : 120
No secondary GTF timing formula supported.
Extension Flag                      : 0
Check sum                           : 08 (HEX.)
************************************************************************
                    EDID data (128 bytes) (LG tube)
************************************************************************

 0: 00  1: ff  2: ff  3: ff  4: ff  5: ff  6: ff  7: 00
 8: 41  9: 0c 10: 18 11: 00 12: 40 13: e2 14: 01 15: 00
16: 13 17: 0e 18: 01 19: 03 20: 68 21: 1f 22: 17 23: b7
24: 28 25: e0 26: 58 27: a1 28: 54 29: 46 30: 9b 31: 24
32: 10 33: 48 34: 4c 35: ad 36: ee 37: 00 38: 31 39: 59
40: 45 41: 59 42: 61 43: 59 44: 81 45: 80 46: 31 47: 68
48: 45 49: 68 50: 81 51: 40 52: 71 53: 4f 54: d6 55: 09
56: 80 57: a0 58: 20 59: 5e 60: 63 61: 10 62: 10 63: 60
64: 52 65: 08 66: 32 67: e6 68: 10 69: 00 70: 00 71: 1a
72: 00 73: 00 74: 00 75: ff 76: 00 77: 20 78: 54 79: 59
80: 20 81: 20 82: 31 83: 32 84: 33 85: 34 86: 35 87: 36
88: 0a 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50
96: 48 97: 49 98: 4c 99: 49 100: 50 101: 53 102: 20 103: 31
104: 30 105: 37 106: 45 107: 36 108: 00 109: 00 110: 00 111: fd
112: 00 113: 32 114: a0 115: 1e 116: 47 117: 0c 118: 00 119: 0a
120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: 08
```

DDC Data

Go to cover page

```
**********************************************************************
                    EDID log file  (HF tube)
**********************************************************************
Vendor/Product Identification
        ID Manufacturer Name        : PHL
        ID Product Code             : 0018 (HEX.)
        ID Serial Number            : 1E240 (HEX.)
        Week of Manufacture         : 19
        Year of Manufacture         : 2004
EDID Version, Revision
        Version                     : 1
        Revision                    : 3
Basic Display Parameters/Features
        Video Input Definition      : Analog Video Input
                                      0.700V/0.000V (0.70Vpp)
                                      without Blank-to-Black Setup
                                      Separate Sync
                                      without Composite Sync
                                      without Sync on Green
                                      no Serration required
        Maximum H Image Size        : 31
        Maximum V Image Size        : 23
        Display Transfer Characteristic : 2.87
                (gamma)
        Feature Support (DPMS)      : no Standby
                                      no Suspend
                                      Active Off
        Display Type                : RGB color display
Color Characteristics
        Red   X coordinate          : 0.62
        Red   Y coordinate          : 0.35
        Green X coordinate          : 0.29
        Green Y coordinate          : 0.61
        Blue  X coordinate          : 0.15
        Blue  Y coordinate          : 0.065
        White X coordinate          : 0.283
        White Y coordinate          : 0.297
Established Timings
        Established Timings I       : 720 x 400 @70Hz (IBM,VGA)
                                      640 x 480 @60Hz (IBM,VGA)
                                      640 x 480 @72Hz (VESA)
                                      640 x 480 @75Hz (VESA)
                                      800 x 600 @60Hz (VESA)
        Established Timings II      : 800 x 600 @72Hz (VESA)
                                      800 x 600 @75Hz (VESA)
                                      832 x 624 @75Hz (Apple,Mac II)
                                      1024 x 768 @60Hz (VESA)
                                      1024 x 768 @70Hz (VESA)
                                      1024 x 768 @75Hz (VESA)
        Manufacturer's timings      :
Standard Timing Identification #1
        Horizontal active pixels    : 640
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #2
        Horizontal active pixels    : 800
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #3
        Horizontal active pixels    : 1024
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #4
        Horizontal active pixels    : 1280
        Aspect Ratio                : 5:4
        Refresh Rate                : 60

Standard Timing Identification #5
        Horizontal active pixels    : 640
        Aspect Ratio                : 4:3
        Refresh Rate                : 100
Standard Timing Identification #6
        Horizontal active pixels    : 800
        Aspect Ratio                : 4:3
        Refresh Rate                : 100
Standard Timing Identification #7
        Horizontal active pixels    : 1280
        Aspect Ratio                : 4:3
        Refresh Rate                : 60
Standard Timing Identification #8
        Horizontal active pixels    : 1152
        Aspect Ratio                : 4:3
        Refresh Rate                : 75
Detailed Timing #1
        Pixel Clock (MHz)           : 25.18
        H Active (pixels)           : 640
        H Blanking (pixels)         : 160
        V Active (lines)            : 350
        V Blanking (lines)          : 99
        H Sync Offset (F Porch) (pixels): 16
        H Sync Pulse Width (pixels) : 96
        V Sync Offset (F Porch) (lines) : 37
        V Sync Pulse Width (lines)  : 2
        H Image Size (mm)           : 306
        V Image Size (mm)           : 230
        H Border (pixels)           : 0
        V Border (lines)            : 0
        Flags                       : Non-interlaced
                                    : Normal Display, No stereo
                                    : Digital Separate sync.
                                    :  Negative Vertical Sync.
                                    : Positive Horizontal Sync.
Monitor Descriptor #2
        Serial Number               : TY 123456
Monitor Descriptor #3
        Monitor Name                : PHILIPS 107E6
Monitor Descriptor #4
        Monitor Range Limits
        Min. Vt rate Hz             : 50
        Max. Vt rate Hz             : 160
        Min. Horiz. rate kHz        : 30
        Max. Horiz. rate kHz        : 71
        Max. Supported Pixel        : 120
        No secondary GTF timing formula supported.
Extension Flag                      : 0
Check sum                           : 96 (HEX.)
**********************************************************************
                    EDID data (128 bytes) (HF tube)
**********************************************************************

 0: 00  1: ff  2: ff  3: ff  4: ff  5: ff  6: ff  7: 00
 8: 41  9: 0c 10: 18 11: 00 12: 40 13: e2 14: 01 15: 00
16: 13 17: 0e 18: 01 19: 03 20: 68 21: 1f 22: 17 23: bb
24: 28 25: e5 26: b8 27: 9e 28: 59 29: 4a 30: 9c 31: 26
32: 10 33: 48 34: 4c 35: ad 36: ee 37: 00 38: 31 39: 59
40: 45 41: 59 42: 61 43: 59 44: 81 45: 80 46: 31 47: 68
48: 45 49: 68 50: 81 51: 40 52: 71 53: 4f 54: d6 55: 09
56: 80 57: a0 58: 20 59: 5e 60: 63 61: 10 62: 10 63: 60
64: 52 65: 08 66: 32 67: e6 68: 10 69: 00 70: 00 71: 1a
72: 00 73: 00 74: 00 75: ff 76: 00 77: 20 78: 54 79: 59
80: 20 81: 20 82: 31 83: 32 84: 33 85: 34 86: 35 87: 36
88: 0a 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50
96: 48 97: 49 98: 4c 99: 49 100: 50 101: 53 102: 20 103: 31
104: 30 105: 37 106: 45 107: 36 108: 00 109: 00 110: 00 111: fd
112: 00 113: 32 114: a0 115: 1e 116: 47 117: 0c 118: 00 119: 0a
120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: 69
```

```
**********************************************************************
                    EDID log file (CPT tube)
**********************************************************************
Vendor/Product Identification
        ID Manufacturer Name        : PHL
        ID Product Code             : 0018 (HEX.)
        ID Serial Number            : 1E240 (HEX.)
        Week of Manufacture         : 19
        Year of Manufacture         : 2004
EDID Version, Revision
        Version                     : 1
        Revision                    : 3
Basic Display Parameters/Features
        Video Input Definition      : Analog Video Input
                                      0.700V/0.000V (0.70Vpp)
                                      without Blank-to-Black Setup
                                      Separate Sync
                                      without Composite Sync
                                      without Sync on Green
                                      no Serration required
        Maximum H Image Size        : 31
        Maximum V Image Size        : 23
        Display Transfer Characteristic : 2.86
                (gamma)
        Feature Support (DPMS)      : no Standby
                                      no Suspend
                                      Active Off
        Display Type                : RGB color display
Color Characteristics
        Red   X coordinate          : 0.62
        Red   Y coordinate          : 0.345
        Green X coordinate          : 0.29
        Green Y coordinate          : 0.61
        Blue  X coordinate          : 0.155
        Blue  Y coordinate          : 0.065
        White X coordinate          : 0.283
        White Y coordinate          : 0.297
Established Timings
        Established Timings I       : 720 x 400 @70Hz (IBM,VGA)
                                      640 x 480 @60Hz (IBM,VGA)
                                      640 x 480 @72Hz (VESA)
                                      640 x 480 @75Hz (VESA)
                                      800 x 600 @60Hz (VESA)
        Established Timings II      : 800 x 600 @72Hz (VESA)
                                      800 x 600 @75Hz (VESA)
                                      832 x 624 @75Hz (Apple,Mac II)
                                      1024 x 768 @60Hz (VESA)
                                      1024 x 768 @70Hz (VESA)
                                      1024 x 768 @75Hz (VESA)
        Manufacturer's timings      :
Standard Timing Identification #1
        Horizontal active pixels    : 640
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #2
        Horizontal active pixels    : 800
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #3
        Horizontal active pixels    : 1024
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #4
        Horizontal active pixels    : 1280
        Aspect Ratio                : 5:4
        Refresh Rate                : 60
Standard Timing Identification #5
        Horizontal active pixels    : 640
        Aspect Ratio                : 4:3
        Refresh Rate                : 100
Standard Timing Identification #6
        Horizontal active pixels    : 800
        Aspect Ratio                : 4:3
        Refresh Rate                : 100
Standard Timing Identification #7
        Horizontal active pixels    : 1280
        Aspect Ratio                : 4:3
        Refresh Rate                : 60
Standard Timing Identification #8
        Horizontal active pixels    : 11      52
        Aspect Ratio                : 4:3
        Refresh Rate                : 75
Detailed Timing #1
        Pixel Clock (MHz)           : 25.18
        H Active (pixels)           : 640
        H Blanking (pixels)         : 160
        V Active (lines)            : 350
        V Blanking (lines)          : 99
        H Sync Offset (F Porch) (pixels): 16
        H Sync Pulse Width (pixels) : 96
        V Sync Offset (F Porch) (lines) : 37
        V Sync Pulse Width (lines)  : 2
        H Image Size (mm)           : 306
        V Image Size (mm)           : 230
        H Border (pixels)           : 0
        V Border (lines)            : 0
        Flags                       : Non                -interlaced
                                    : Normal Display, No stereo
                                    : Digital Separate sync.
                                    : Negative Vertical Syn   c.
                                    : Positive Horizontal Sync.
Monitor Descriptor #2
        Serial Number               :  TY  123456
Monitor Descriptor #3
        Monitor Name                : PHILIPS 107E6
Monitor Descriptor #4
        Monitor Range Limits
        Min. Vt rate Hz             : 50
        Max. Vt rate Hz             : 160
        Min. Horiz. rate kHz        : 30
        Max. Horiz. rate kHz        : 71
        Max. Supported Pixel        : 120
        No secondary GTF timing formula supported.
Extension Flag                      : 0
Check sum                           : 67 (HEX.)

**********************************************************************
      EDID data (128 bytes) (CPT tube)
**********************************************************************

 0: 00  1  : ff  2: ff  3: ff  4: ff  5: ff  6: ff  7: 00
 8: 41  9: 0c  10: 18  11: 00  12: 40  13: e2  14: 01  15: 00
16: 13  17: 0e  18: 01  19: 03  20: 68  21: 1f  22: 17  23: ba
24: 28  25: d5  26: f8  27: 9e  28: 58  29: 4a  30: 9c  31: 27
32: 10  33  : 48  34: 4c  35: ad  36: ee  37: 00  38: 31  39: 59
40: 45  41: 59  42: 61  43: 59  44: 81  45: 80  46: 31  47: 68
48: 45  49: 68  50: 81  51: 40  52: 71  53: 4f  54: d6  55: 09
56: 80  57: a0  58: 20  59: 5e  60: 63  61: 10  62: 10  63: 60
64: 52  65  : 08  66: 32  67: e6  68: 10  69: 00  70: 00  71: 1a
72: 00  73: 00  74: 00  75: ff  76: 00  77: 20  78: 54  79: 59
80: 20  81: 20  82: 31  83: 32  84: 33  85: 34  86: 35  87: 36
88: 0a  89: 20  90: 00  91: 00  92: 00  93: fc  94: 00  95: 50
96: 48  97  : 49  98: 4c  99: 49 100: 50 101: 53 102: 20 103: 31
104: 30 105: 37 106: 45 107: 36 108: 00 109: 00 110: 00 111: fd
112: 00 113: 32 114: a0 115: 1e 116: 47 117: 0c 118: 00 119: 0a
120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: 67
```

DDC Data

Go to cover page

```
**********************************************************************
                    EDID log file (ORION tube)
**********************************************************************
Vendor/Product Identification
        ID Manufacturer Name        : PHL
        ID Product Code             : 0018 (HEX.)
        ID Serial Number            : 1E240 (HEX.)
        Week of Manufacture         : 19
        Year of Manufacture         : 2004
EDID Version, Revision
        Version                     : 1
        Revision                    : 3
Basic Display Parameters/Features
        Video Input Definition      : Analog Video Input
                                      0.700V/0.000V (0.70Vpp)
                                      without Blank-to-Black Setup
                                      Separate Sync
                                      without Composite Sync
                                      without Sync on Green
                                      no Serration required
        Maximum H Image Size        : 31
        Maximum V Image Size        : 23
        Display Transfer Characteristic : 2.98
                (gamma)
        Feature Support (DPMS)      : no Standby
                                      no Suspend
                                      Active Off
        Display Type                : RGB color display
Color Characteristics
        Red   X coordinate          : 0.645
        Red   Y coordinate          : 0.322
        Green X coordinate          : 0.278
        Green Y coordinate          : 0.602
        Blue  X coordinate          : 0.142
        Blue  Y coordinate          : 0.06
        White X coordinate          : 0.283
        White Y coordinate          : 0.297
Established Timings
        Established Timings I       : 720 x 400 @70Hz (IBM,VGA)
                                      640 x 480 @60Hz (IBM,VGA)
                                      640 x 480 @72Hz (VESA)
                                      640 x 480 @75Hz (VESA)
                                      800 x 600 @60Hz (VESA)
        Established Timings II      : 800 x 600 @72Hz (VESA)
                                      800 x 600 @75Hz (VESA)
                                      832 x 624 @75Hz (Apple,Mac II)
                                      1024 x 768 @60Hz (VESA)
                                      1024 x 768 @70Hz (VESA)
                                      1024 x 768 @75Hz (VESA)
        Manufacturer's timings      :
Standard Timing Identification #1
        Horizontal active pixels    : 640
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #2
        Horizontal active pixels    : 800
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #3
        Horizontal active pixels    : 1024
        Aspect Ratio                : 4:3
        Refresh Rate                : 85
Standard Timing Identification #4
        Horizontal active pixels    : 1280
        Aspect Ratio                : 5:4
        Refresh Rate                : 60
Standard Timing Identification #5
        Horizontalactive pixels     : 640
Aspect Ratio            : 4:3
        Refresh Rate                : 100
Standard Timing Identification #6
        Horizontal active pixels    : 800
        Aspect Ratio                : 4:3
        Refresh Rate                : 100
Standard Timing Identification #7
        Horizontal active pixels    : 1280
        Aspect Ratio                : 4:3
        Refresh Rate                : 60
Standard Timing Identification #8
        Horizontal active pixels    : 1152
        Aspect Ratio                : 4:3
        Refresh Rate                : 75
Detailed Timing #1
        Pixel Clock (MHz)           : 25.18
        H Active (pixels)           : 640
        H Blanking (pixels)         : 160
        V Active (lines)            : 350
        V Blanking (lines)          : 99
        H Sync Offset (F Porch) (pixels): 16
        H Sync Pulse Width (pixels) : 96
        V Sync Offset (F Porch) (lines) : 37
        V Sync Pulse Width (lines)  : 2
        H Image Size (mm)           : 306
        V Image Size (mm)           : 230
        H Border (pixels)           : 0
        V Border (lines)            : 0
        Flags                       : Non-interlaced
                                    : Normal Display, No stereo
                                    : Digital Separate sync.
                                    : Negative Vertical Sync.
                                    : Positive Horizontal Sync.
Monitor Descriptor #2
        Serial Number               : TY 123456
Monitor Descriptor #3
        Monitor Name                : PHILIPS 107E6
Monitor Descriptor #4
        Monitor Range Limits
        Min. Vt rate Hz             : 50
        Max. Vt rate Hz             : 160
        Min. Horiz. rate kHz        : 30
        Max. Horiz. rate kHz        : 71
        Max. Supported Pixel        : 120
        No secondary GTF timing formula supported.
Extension Flag                      : 0
Check sum                           : B4 (HEX.)
**********************************************************************
                    EDID data (128 bytes) (ORION tube)
**********************************************************************

 0: 00  1: ff  2: ff  3: ff  4: ff  5: ff  6: ff  7: 00
 8: 41  9: 0c 10: 18 11: 00 12: 40 13: e2 14: 01 15: 00
16: 13 17: 0e 18: 01 19: 03 20: 68 21: 1f 22: 17 23: c6
24: 28 25: 24 26: 58 27: a5 28: 52 29: 47 30: 9a 31: 24
32: 0f 33: 48 34: 4c 35: ad 36: ee 37: 00 38: 31 39: 59
40: 45 41: 59 42: 61 43: 59 44: 81 45: 80 46: 31 47: 68
48: 45 49: 68 50: 81 51: 40 52: 71 53: 4f 54: d6 55: 09
56: 80 57: a0 58: 20 59: 5e 60: 63 61: 10 62: 10 63: 60
64: 52 65: 08 66: 32 67: e6 68: 10 69: 00 70: 00 71: 1a
72: 00 73: 00 74: 00 75: ff 76: 00 77: 20 78: 54 79: 59
80: 20 81: 20 82: 31 83: 32 84: 33 85: 34 86: 35 87: 36
88: 0a 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50
96: 48 97: 49 98: 4c 99: 49 100: 50 101: 53 102: 20 103: 31
104: 30 105: 37 106: 45 107: 36 108: 00 109: 00 110: 00 111: fd
112: 00 113: 32 114: a0 115: 1e 116: 47 117: 0c 118: 00 119: 0a
120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: b4
 Address 78&79 factory code :
 Brazil   HC(48h,43h)      Ch       ungli       TY(54h,59h)
 Delta    GK(47h,4Bh)      Juarez       YA(59h,41h)
Shenzshen  CX(43h,58h) same as Dongguan
 Suzhou     BZ(42h,5Ah)    Szombathely   HD(48h,44h)
     Serial no.address:82,83,84,85,86,87,88,89
```

Electrical Instructions

1. General point

1.1 During alignment and measurement supply a distortion free AC-mains voltage to the apparatus via an isolating transformer with a low internal resistance.

1.2 All voltages have to be measured or applied with respect to ground, unless otherwise stated.

Note: Not all heatsinks are grounded, avoid using heatsinks as ground.

1.3 The term "Linear RGB" is meant the 0.7 Vpp video with separate SYNC (TTL Level).

Reference factory preset mode timings

(format of pattern generator CHROMA-2135)

are shown in TABLE 1 to TABLE 8. Preload timing TABLE 9 to TABLE 22.

1.4 Any external voltage source should have low internal impedance.

1.5 The alignment has to be done in room temperature 25+/-5°C.

1.6 Digit control buttons for

OSD MENU :
LANGUAGE
ZOOM
ADJUST HORIZONTAL - POSITION
- SIZE
ADJUST VERTICAL - POSITION
- SIZE
ADJUST SHAPE - ADJUST SIDE CURVE
- PINCUSHION
- BALANCE
- ADJUST SIDE ANGLES
- TRAPEZOID
- PARALLELOGRAM
- ROTATE IMAGE
ADJUST COLOR - 3 colour temperatures (9300°K, 6500°K, sRGB)
1 user preset independent RGB adjustment
RESET TO FACTORY SETTING
EXTRA CONTROLS - ADJUST MOIR
HORIZONTAL
VERTICAL
- DEGAUSSING
MODEL SELECT
CLOSE MAIN CONTROLS

2. Pre warm -up

2.1 Align in pre-warmed condition at least 30 minutes during manufacturing.

3. Main chassis alignment

3.1Power supply adjustment :

All supply voltages were fixed and adjustment is unnecessary.

(Check the voltages on Chassis line)

3.2 Apply a 31.47KHz / 60Hz 640x480 cross-hatch signal.

3.2.1 Adjust BPLUS of factory setting to obtain the anode voltage 25.0KV+/-0.5KV at zero beam current .

3.3 Monitor the following auxiliary voltages.

+5	source across 7153 Pin out and GND	+5V	0.15 VDC
+6	source across C2154	+6.1V	0.2 VDC
+12	source across C2155	+12.5V	0.4 VDC
-12	source across C2156	-12.5V	0.4 VDC
+82	source across C2153	+82.0V	1.5 VDC
+190	source across C2152 (+ to Gnd)	+190V	3.0 VDC
-137	source across C2630	-137V	10.0 VDC

4.General conditions for aging and alignment

4.1 Aging/burn-in:

Use low mains AC supply (90Vac) for monitor first power on test. Pre-adjust the Focus till cross hatch pattern can be clearly visible then enter the aging mode. (Press both Up and Down keys, and then switch -on the monitor with signal cable disconnected.)

4.2 During all alignments, supply a distortion free AC mains voltage to the monitor set via an isolating transformer with low internal impedance.

4.3 All measurements are carried out at nominal mains voltage, unless otherwise stated.

4.4 Align in pre-warmed condition, at least 30 minutes warm-up with nominal light output.

4.5 Purity, geometry and subsequent alignments should be carried out in a magnetic cage with correct magnetic field.

Northern Hemisphere: H = 0, V = 450 mG, Z = 0
Southern Hemisphere: H = 0, V = -500 mG, Z = 0
Equatorial Support : H = 0, V = 0 mG, Z = 0

4.6 All voltages are to be measured or applied with respect to ground , unless otherwise stated.

Attention : Not all heatsinks are GND, avoid using heatsinks as ground.

4.7 The white balance and purity has to be adjusted in dully lighted room.

4.8 All alignments have to be done in a room with a temperature of 25 ± 10 °C.

5.Alignment of Vg2, cut -off point, white tracking

5.1 EEPROM data has to be pre-set according to software approval sheets, sheet-139,sheet-140: (loaded beforehand with average values of mode pre-set data and mode pre-set selection bytes.) The following table is for reference only. Optimum values should be determined by Factory(ME) via official " Factory Notice ".

In factory, alignments are done via I ^{2}C on the I/F cable DDC bus , but the set can also be manually aligned. Enter " factory mode " by press ing both Up and Down keys while power -on. Select " factory ".

5.2 External degaussing

Remove ferromagnetic measuring equipment, Iron tablet, etc., in the neighbourhood of the apparatus within half a meter.

Position the set in E-W direction and degauss well via external degaussing coil. Slowly increase the distance between the picture tube and degaussing coil, keeping the coil in parallel with the screen of CRT. When the distance is more than 2m, turn off the degaussing current.

5.3 Adjustment mode: 68.7KHz/85Hz with correctly adjusted video size 306x230mm. Use color-analyzer (Minolta CA-100) to adjust cut-off and white balance.

Before alignment, set initial data as item 5.1 and brightness set to 50%.

Electrical Instructions

Item \ CRT	Condition/Description	LG DAC value	HF DAC value	CPT DAC value
Bias R, G, B	Back ground white balance	127,135,112	141,121, 136	135,127,131
Gain R, G, B	Video white balance	192,169,170	161,171,174	230,210,205
* sRGB bright	sRGB background brightness	127	127	127
* sRGB contrast	sRGB Video brightness	255	255	255
* Corner-T, B	Top/Bottom corner	185, 165	185, 165	185, 165
* Pin Correction-T, B	Top/Bottom pincushion	118, 110	127, 115	110, 145
* S-wave, S-wave bal	S-wave, S-wave balance	124, 124	124, 124	127, 150
# V-offset	V-raster centering	145	145	145
# V-gain	Fh < 33KHZ			
	31.5K-70Hz/640x350	255	255	255
	31.5K-70Hz/720x400	255	255	255
	31.5K-60Hz/640x480	130	100	180
	Fh > 33KHz	130	100	180
* Sub-contrast	Sub contrast allowance range	220	220	230
* Sub-brightness	Sub brightness allowance range	140	225	120
# Sub H-size	Sub H-size adjustment range Fh < 40KHz	185	220	185
	40KHz < Fh < 55KHz	130	180	130
	55KHz < Fh < 62KHZ	90	130	90
	Fh > 62KHz	40	75	40
* Linearity-H	Fh < 33KHz	90	100	82
	33KHz < Fh < 36KHz	105	115	90
	36KHz < Fh < 40KHz	110	128	98
	40KHz < Fh < 44 KHz	115	130	110
	44KHz < Fh < 47KHz	122	134	120
	47KHz < Fh < 51KHz	130	138	125
	51KHZ < Fh < 55KHz	134	142	132
	55KHz < Fh < 58KHz	136	145	136
	58KHz < Fh < 62KHz	140	155	142
	62KHz < Fh < 66KHz	145	160	146
	Fh > 66KHz	150	165	152
* Linearity-V	Vertical S-correction	110	110	110
# Range-UserH	User H-size adjustment range	100	180	100
# Range-Sub ⊕	User Zoom adjustment range	127	160	145
B+	High voltage adjustment	168	130	140
ABL	Auto brightness adjustment (adjust 9300 full white light output)	189	165	183
EHT compensation-V, H	Fh < 33KHz	119, 105	86 , 110	111, 101
	33KHz < Fh < 36KHz	119, 105	86 , 110	111, 101
	36KHz < Fh < 40KHz	140, 95	124, 97	139, 90
	40KHz < Fh < 44 KHz	153, 85	129, 88	154, 84
	44KHz < Fh < 47KHz	151, 82	148, 86	168, 85
	47KHz < Fh < 51KHz	158, 80	149, 88	165, 80
	51KHZ < Fh < 55KHz	173, 77	169, 85	181, 84
	55KHz < Fh < 58KHz	174, 78	160, 85	180, 83
	58KHz < Fh < 62KHz	175, 77	156, 87	186, 80
	62KHz < Fh < 66KHz	168, 75	169, 94	191, 82
	Fh > 66KHz	180, 75	179, 98	187, 85
# V-Linbal	Vertical linearity balance	120	120	120
* V-Focus	Vertical focus amplitude	150	150	150
# OSD Contrast	OSD Contrast	200	200	200
*EHT- Cur	EHT Current	8	8	8
# EHT- Shift	EHT Shift	127	127	127
* EHT- Off	EHT Offset	112	110	114
# H- Gain	H- Gain	130	180	180
# H- Range	H-Gain allowance range	255	255	255
HB- M, H	High brightness- Medium, High	Don't care	Don't care	Don't care
Moiré setting-H, V	All modes	0, 15	0, 20	0, 15

White alignment measurement equipment set -ups:
Setup A: 100x100mm white block , 0.7Vpp input video signal, contrast at 0%, 9300 mode Calibrate CA100, Low 9300 RGB=100→ x=0.283, y=0.297, Y=0.10FL+/-0.05FL
Setup B: 100x100mm white block , 0.7Vpp input video signal, contrast at 100%, 9300 mode Calibrate CA100, High 9300 RGB=100→ x=0.283, y=0.297, Y=41FL+/-1FL
Setup C: 100x100mm white block , 0.7Vpp input video signal, contrast at 0%, 6500 mode Calibrate CA100, Low 6500 RGB=100→ x=0.313, y=0.329, Y=0.10FL+/-0.05FL
Setup D: 100x100mm white block , 0.7Vpp input video signal, contrast at 100%, 6500 modeCalibrate CA100, High 6500 RGB=100→ x=0.313, y=0.329, Y=36FL+/-1FL
Setup E: 100x100mm white block , 0.7Vpp input video signal, contrast at 0%, sRGB mode Calibrate CA100, Low sRGB RGB=100→ x=0.313, y=0.329, Y=0.10FL+/-0.05FL
Setup F: 100x100mm white block , 0.7Vpp input video signal, contrast at 100%, sRGB mode Calibrate CA100, High sRGB RGB=100→ x=0.313, y=0.329, Y=36FL+/-1FL
Setup G: Full white (306x230mm), 0.7Vpp input video signal, contrast at 100% , 9300 mode Calibrate CA100, High 9300 RGB=100→ x=0.313, y=0.329, Y=30FL+/-1FL
Adjustment procedure:
5.3.1 Setup A, manually rotate Vg2 pot-meter on LOT until brightness reaches 100 scale.
5.3.2 Setup A, adjust RGB cut-off (I^2C) for all colors at 100 7 scale, 9300 mode. (x=0.283, y=0.297, Y=0.10+/-0.05FL)
5.3.3 Setup B, adjust RGB gain (I^2C) for all colors at 100 2 scale, 9300 mode. (x=0.283, y=0.297, Y=41+/-0.5 FL)
5.3.4 Repeat 5.3.2, 5.3.3 (RGB cut-off and gain) to get both low and high 9300 scales at 100. (0.10FL+/- 0.05FL for low scale; 41FL+/-1FL for high scale. x/y tolerance 0.005)
5.3.5 Setup C, adjust RGB cut-off (I^2C) for all colors at 100+/-7 scale, 6500 mode. (x=0.313, y=0.329, Y=0.10FL+ 0.05FL)
5.3.6 Setup D, adjust RGB gain (I^2C) for all colors at 100 2 scale, 6500 mode. (x=0.313, y=0.329, Y=36FL+/-1FL)
5.3.7 Repeat 5.3.5, 5.3.6 (RGB cut-off and gain) to get both low and high 6500 scales at 100.(0.10FL+/-0.05FL for low scale; 36FL+/- 1FL for high scale. x/y tolerance+/-0.005)
5.3.8 Setup E, adjust RGB cut-off (I^2C) for all colors at 100+/-7 scale, sRGB mode.(x=0.313, y=0.329, Y=0.10FL+/-0.05FL)
(same values as 6500 mode)
5.3.9Setup F, adjust RGB gain (I^2C) for all colors at 100+/-2 scale, sRGB mode.(x=0.313, y=0.329, Y=36FL+/-1FL)(same values as 6500 mode)
5.3.10 sRGB brightness at 50%. Adjust sRGB contrast (I^2C) to get Y=23FL+/-1FL for full white pattern.(0.10FL+/-0.05FL for low scale, 23FL+/-1FL for high scale. x/y tolerance+/0.005)
5.4 Setup G, adjust ABL (I^2C) for 30FL+/-0.5FL, 9300 mode.
The above alignment method may be changed, as long as the final results are the same.(The above method has least amount of adjustment and iteration steps.)
6.Adjustment of the pic ture geometry
6.1 Alignment of primary geometry
6.1.1
Apply Timing 7 (64KHz/60Hz, 1280x1024) with black video signal, set V-position at 50%, set H and V -size for visible raster edges at all sides. (RGB cut-off can be increased temporarily to make raster visible. After adjustment, restore RGB cut-off to original values.)
Slide switch 1109 for centered raster in horizontal direction
.
Adjust V-offset (I^2C) for centered raster in vertical direction.
Apply Timing 8 (68.7kHz / 85Hz) with crosshatch signal and start geometry alignment.
6.1.2 Adjust the Horizontal Size to 306mm.
6.1.3 Adjust the Horizontal Position for centered video.
6.1.4 Adjust the Vertical Size to 230 mm.
6.1.5 Adjust Vertical Position for centered video
6.1.6 Adjust picture tilt for correct TOP/BOTTOM lines.
(Picture tube should be mounted without tilt w.r.t. cabinet)
6.1.7 Adjust pincushion to get optimum vertical line.
6.1.8 Adjust trapezoid to get optimum vertical line.
6.1.9 Adjust balanced pincushion to get optimum vertical line.
6.1.10 Adjust the parallelogram to get optimum vertical line.
6.1.11 If needed, adjust the top / bottom corner control to get optimum corner geometry. Top and bottom corner only affect top and bottom 60mm of the vertical lines.(6.1.7, 6.1.8, 6.1.9 and 6.1.10 may need to be readjusted.)
6.1.12 Store the adjusted result and exit OSD.
(The values for pincushion, trapezoid, balance pincushion and parallelogram can be copied to the other pre-set modes to shorten alignment time.)
6.2 Other pre-set mode geometry adjustment
Use following procedure for all pre-set modes (except 68.7kHz/85Hz)(Timing Table 1 - 8)
6.2.1 Adjust the Horizontal Size to 306mm.
6.2.2 Adjust the Horizontal Position to center position.
6.2.3 Adjust the Vertical Size to 230 mm.
6.2.4 Adjust the Vertical Position for correctly centered vertical video.
6.2.5 Adjust pincushion to get optimum vertical line.
6.2.6 Adjust trapezoid to get optimum vertical line.
6.2.7 Adjust balanced pincushion to get optimum vertical line.
6.2.8 Adjust the parallelogram to get optimum vertical line.
(6.2.5, 6.2.6, 6.2.7 and 6.2.8 may need some iteration.)
6.2.9 Store the set result and exit OSD.
6.3 For preload modes, the entire image shall be displayed inside the bezel, H-width: 306mm +/- 5mm, V -size: 230mm +/- 5mm, Display center: < 10mm, Geometry: same as preset modes, by preloading appropriate EEPROM data batch by batch. EHT regu lation: same as preset modes.
107E6 Geometry alignment sequence background.

The new deflection controller SAA4848 has many advanced geometry parameters that can be adjusted via factory mode. However, when the correct sequence is not followed, the picture geometry result will be poor. Most of the advanced parameters have been fixed for each CRT source.Production may change the advanced geometry parameters to get better result. When checking if changing these parameters gives better results, please us e the following sequence.
1: Start with video mode 68Khz/85Hz, crosshatch pattern. CRT facing East,EHT correctly aligned, set well degaussed. Make sure that CRT is correctly mounted in plastic front cabinet. (no rotation or offset mounting)
When using OSD window to adjust Pincushion/keystone etc, there can be East West distortion due to OSD induced EHT variation. This can lead to wrong geometry adjustment results. To avoid this effect, temporary set OSD contrast to 0. After alignment set back to original value.
2: Set the following parameters in nominal pre-set condition (in factory mode):
V-shift: 50%
V-size: For nominal V-size
H-shift: Centered video in raster
H-size: nominal H-size at raster middle position

Electrical Instructions

Pincushion: Pre-align for optimal East/West side lines
Pin unbalance: 50%
Keystone: 50%
Parallelogram: 50%
Rotation: adjust for video North & South parallel to CRT (bezel)
V-gain: set as EEPROM data (CRT and mode dependent)
V-linbal: 127
Corner T: 190
Corner B: 190
PinCorr T: 127
PinCorr B: 127
S-wave: 127
S-wave bal: 127
3: Adjust the parameters in the following sequence:
Adjust V-offset for V-centered raster background (video will be slightly off-center)Set H-DC shift switch for H-centered raster background (offset to L-side should be avoided)
Adjust V-LINBAL for optimal top/bottom V-linearity
Adjust V-LIN for optimal top center V-linearity
Adjust V-shift for centered video
Adjust Pincushion for optimal East/West side lines
Adjust CORNER T and B correction for straightest L/R sides
Adjust pincushion unbalance for balanced sides
Adjust parallelogram for balanced sides
Adjust trapezoid for optimal square picture
4: If picture still has some higher order distortion:
Adjust S-wave and S-wave balance for smoothest L/R side shapes (only small modifications)Adjust PINCORR T / Corner T and PINCORR B / Corner B for "repairing" induced errors
After this mode is optimized, the mode dependent values (Pin / Pin unbalance / Trapezoid / parallelogram) can be copied to all modes. But, for the item of Pin, 31K-70Hz (350/400 vertical lines) mode is an exception. The proper value is original DAC value plus 10 to 12 %, depending on CRT source. In this way, less time is needed for aligning all modes.

7 Focus adjustment

With full white pattern display at timing 68Khz /85Hz 1024x768, set brightness at 50% and adjust contrast to 25 FL at the center of the screen. Apply a pattern shown in Fig. 8 and adjust H and V focus pot-meters which are located at fly back transformer, until H- and V-line focus is optimal over the entire screen.

8 Adjustment of Moiré

Apply full white pattern and adjust contrast till luminance around 15FL. 1/3 area with minor moire can be acceptable. If needed, use moiré cancellation function and adjust the H- Moiré or V-Moiré to cancel the moiré defect, then save at factory.

9 Loading DDC code

The DDC HEX data (refer to sheet-190) should be written into the DDC by EEPROM writer or equivalent method.

	DDC1	DDC2B
Software		V
Hardware		

10.Default settings

The finished product should have the following major default settings (For detail, please see sheet 140.):Model select: 107T6 (A2 PAGE Byte 43 = 00H), LF3: ON, Languages: 8 or 9 (A2 PAGE, Byte 35 = 24H for 8 languages, 04H for 9 languages). Life hours: reset to 0 (A2 PAGE Byte 48 = 00H, Byte 49 = 00H).
Contrast: 100%, Brightness: 50%, Color: 9300, Language: English(Chinese), (Remark : Every mode is independent for "reset to factory setting" .)

TIMING FOR V32 GS4 107T6 71K MODEL

REFERENCE PATTERN GENERATOR : CHROMA 2135

* According to VESA version 1.0 release 0.6p

Factory preset modes

TABLE 1: 31.469 KHz/70.087 Hz, 720 X 400, pixel=28.325 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 31.774 us	Total size	= 14.268 ms
Display size	= 25.422 us	Display size	= 12.711 ms
Rear porch	= 1.907 us	Rear porch	= 1.112 ms
Sync width	= 3.813 us	Sync width	= 0.064 ms
Sync polarity	= -	Sync polarity	= +

TABLE 2: 31.469KHz/59.940 Hz, 640 X 480, pixel=25.175 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 31.778 us	Total size	= 16.683 ms
Display size	= 25.422 us	Display size	= 15.253 ms
Rear porch	= 1.907 us	Rear porch	= 1.049 ms
Sync width	= 3.813 us	Sync width	= 0.064 ms
Sync polarity	= -	Sync polarity	= -

TABLE 3: 43.269KHz/85.008 Hz, 640 X 480, pixel=36.000 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 23.111 us	Total size	= 11.764 ms
Display size	= 17.778 us	Display size	= 11.093 ms
Rear porch	= 2.222 us	Rear porch	= 0.578 ms
Sync width	= 1.556 us	Sync width	= 0.069 ms
Sync polarity	= -	Sync. polarity	= -

TABLE 4: 46.875 KHz/75 Hz, 800 X 600, pixel=49.500 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 21.333 us	Total size	= 13.333 ms
Display size	= 16.162 us	Display size	= 12.800 ms
Rear porch	= 3.232 us	Rear porch	= 0.448 ms
Sync width	= 1.616 us	Sync width	= 0.064 ms
Sync polarity	= +	Sync. polarity	= +

TABLE 5: 53.674 KHz/85.061 Hz, 800 X 600, pixel=56.250 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 18.631 us	Total size	= 11.756 ms
Display size	= 14.222 us	Display size	= 11.179 ms
Rear porch	= 2.702 us	Rear porch	= 0.503 ms
Sync width	= 1.138 us	Sync width	= 0.056 ms
Sync polarity	= +	Sync polarity	= +

TABLE 6: 60.03 KHz/75.029 Hz, 1024 X 768, pixel=78.750 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 16.660 us	Total size	= 13.328 ms
Display size	= 13.003 us	Display size	= 12.795 ms
Rear porch	= 2.235 us	Rear porch	= 0.466 ms
Sync width	= 1.219 us	Sync width	= 0.050 ms
Sync polarity	= +	Sync polarity	= +

TABLE 7: 63.981 KHz/60.020 Hz, 1280 X 1024, pixel=108 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 15.630 us	Total size	= 16.661 ms
Display size	= 11.852 us	Display size	= 16.005 ms
Rear porch	= 2.296 us	Rear porch	= 0.594 ms
Sync width	= 1.037 us	Sync width	= 0.047 ms

TABLE 8: 68.677 KHz/84.997 Hz, 1024 X 768, pixel=94.500 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 14.561 us	Total size	= 11.765 ms
Display size	= 10.836 us	Display size	= 11.183 ms
Rear porch	= 2.201 us	Rear porch	= 0.524 ms
Sync width	= 1.016 us	Sync width	= 0.044 ms
Sync polarity	= +	Sync polarity	= +

Factory preload modes

TABLE 9: 31.469KHz/70.087 Hz, 640 X 350, pixel=25.175MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 31.778 us	Total size	= 14.268 ms
Display size	= 25.422 us	Display size	= 11.122 ms
Rear porch	= 1.907 us	Rear porch	= 1.907 ms
Sync width	= 3.813 us	Sync width	= 0.064 ms
Sync polarity	= +	Sync polarity	= -

TABLE 10: 37.861KHz/85.08 Hz, 640 X 350, pixel=31.5MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 26.413 us	Total size	= 11.754 ms
Display size	= 20.317 us	Display size	= 9.244 ms
Rear porch	= 3.048 us	Rear porch	= 1.585 ms
Sync width	= 2.032 us	Sync width	= 0.079 ms
Sync polarity	= +	Sync polarity	= -

TABLE 11: 37.5KHz/75 Hz, 640 X 480, pixel=31.5MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 26.667 us	Total size	= 13.333 ms
Display size	= 20.317 us	Display size	= 12.800 ms
Rear porch	= 3.810 us	Rear porch	= 0.427 ms
Sync width	= 2.032 us	Sync width	= 0.080 ms
Sync polarity	= -	Sync polarity	= -

TABLE 12: 37.861KHz/72.809 Hz, 640 X 480, pixel=31.5MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 26.413 us	Total size	= 13.735 ms
Display size	= 20.317 us	Display size	= 12.678 ms
Rear porch	= 4.064 us	Rear porch	= 0.739 ms
Sync width	= 1.270 us	Sync width	= 0.079 ms
Sync polarity	= -	Sync polarity	= -

TABLE 13: 50.625 KHz/100.049 Hz, 640 X 480, pixel=40.5MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 19.752 us	Total size	= 9.995 ms
Display size	= 15.802 us	Display size	= 9.481 ms
Rear porch	= 1.975 us	Rear porch	= 0.435 ms
Sync width	= 1.580 us	Sync width	= 0.059 ms
Sync polarity	= -	Sync polarity	= -

TABLE 14: 37.927 KHz/85.039 Hz, 720 X 400, pixel=35.5 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 26.366 us	Total size	= 11.759 ms
Display size	= 20.282 us	Display size	= 10.546 ms
Rear porch	= 3.042 us	Rear porch	= 1.107 ms
Sync width	= 2.028 us	Sync width	= 0.079 ms
Sync polarity	= -	Sync polarity	= +

TABLE 15: 37.879 KHz/60.317 Hz, 800 X 600, pixel=40MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 26.400 us	Total size	= 16.579 ms
Display size	= 20.000 us	Display size	= 15.840 ms
Rear porch	= 2.200 us	Rear porch	= 0.607 ms
Sync width	= 3.200 us	Sync width	= 0.106 ms
Sync polarity	= +	Sync polarity	= +

TABLE 16: 48.077 KHz/72.188 Hz, 800 X 600, pixel=50MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 20.800 us	Total size	= 13.853 ms
Display size	= 16.000 us	Display size	= 12.480 ms
Rear porch	= 1.280 us	Rear porch	= 0.478 ms
Sync width	= 2.400 us	Sync width	= 0.125 ms
Sync polarity	= +	Sync polarity	= +

TABLE 17: 63.92KHz/100 Hz, 800 X 6 00, pixel=67.5MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 15.644 us	Total size	= 9.997 ms
Display size	= 11.852 us	Display size	= 9.387 ms
Rear porch	= 2.370 us	Rear porch	= 0.548 ms
Sync width	= 0.948 us	Sync width	= 0.047 ms
Sync polarity	= +	Sync polarity	= +

TABLE 18: 49.714KHz/74.534 Hz, 832 X 624, pixel=57.27MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 20.115 us	Total size	= 13.417 ms
Display size	= 14.528 us	Display size	= 12.552 ms
Rear porch	= 3.911 us	Rear porch	= 0.784 ms
Sync width	= 1.118 us	Sync width	= 0.060 ms
Sync polarity	= -	Sync polarity	= -

TABLE 19: 48.363 KHz/60.004 Hz, 1024 X 768, pixel=65MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 20.677 us	Total size	= 16.666 ms
Display size	= 15.754 us	Display size	= 15.880 ms
Rear porch	= 2 .462 us	Rear porch	= 0.600 ms
Sync width	= 2.092 us	Sync width	= 0.124 ms
Sync polarity	= -	Sync polarity	= -

TABLE 20: 56.476KHz/70.069 Hz, 1024 X 768, pixel=75MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 17.707 us	Total size	= 14.272 ms
Display size	= 13.653 us	Display size	= 13.599 ms
Rear porch	= 1.920 u s	Rear porch	= 0.513 ms
Sync width	= 1.813 us	Sync width	= 0.106 ms
Sync polarity	= -	Sync polarity	= -

TABLE 21: 67.5 KHz/75Hz, 1152 X 864, pixel=108MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 14.815 us	Total size	= 13.333 ms
Display size	= 10.667 us	Display size	= 12.800 ms
Rear porch	= 2.370 us	Rear porch	= 0.474 m s
Sync width=	1.185 us	Sync width	= 0.044 ms
Sync polarity	= +	Sync polarity	= +

TABLE 22: 60.0 KHz/60 Hz, 1280 X 960, pixel= 108MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 16.667 us	Total size	= 16.667 ms
Display size	= 11.852 us	Display size	= 16.000 ms
Rear porch	= 2.889 us	Rear porch	= 0.600 ms
Sync width	= 1.037 us	Sync width	= 0.050 ms
Sync polarity	= +	Sync polarity	= +

Waring and Notes

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Warnings

1. Safety regulations require that the unit should be returned in its original condition and that components identical to the original components are used. The safety components are indicated by the symbol ⚠ .

2. In order to prevent damage to ICs and transistors, all high-voltage flash-overs must be avoided. In order to prevent damage to the picture tube, the method shown in Fig. 1 should be used to discharge the picture tube. Use a high-voltage probe and a multimeter (position DC-V). Discharge until the meter reading is 0 V (after approximately 30 seconds).

3. ESD
   All ICs and many other semiconductors are sensitive to electrostatic discharges (ESD). Careless handling during repair can drastically shorten their life. Make sure that during repair you are connected by a pulse band with resistance to the same potential as the ground of the unit. Keep components and tools also at this same potential.

4. When repairing a unit, always connect it to the AC Power voltage via an isolating transformer.

5. Be careful when taking measurements in the high-voltage section and on the picture tube panel.

6. It is recommended that saferty goggles be worn when replacing the picture tube.

7. When making adjustments,use plastic rather than metal tools. This will prevent any short-circuit or the danger of a circuit becoming unstable.

8. Never replace modules or other components while the unit is switched on.

9. Together with the defleciton unit, the picture tube is used as an integrated unit. Adjustment of this unit during repair is not recommended.

10. After repair, the wiring should be fastened in place with the cable clamps.

11. All units that are returned for service or repair must pass the original manufactures safety tests.

Notes

1. The direct voltages and waveforms are average voltages. They have been measured using the Service test software and under the following conditions :
   - Mode : 1024*768 (60kHz /75Hz)
   - Signal pattern : White pattern
   - Adjust brightness and contrast control for the mechanical mid-position (click position)

2. The picture tube panel has printed spark gaps. Each spark gap is connected between an electrode of the picture tube and the Aquadag coating.

3. The semiconductors indicated in the circuit diagram(s) and in the parts lists are completely interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

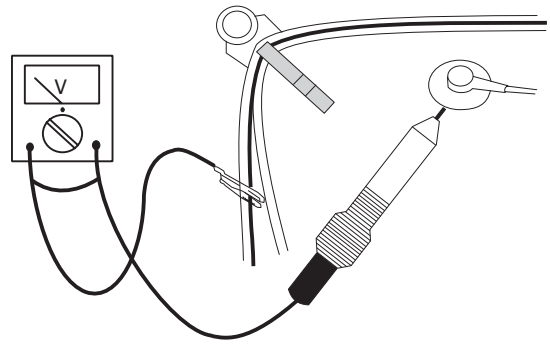
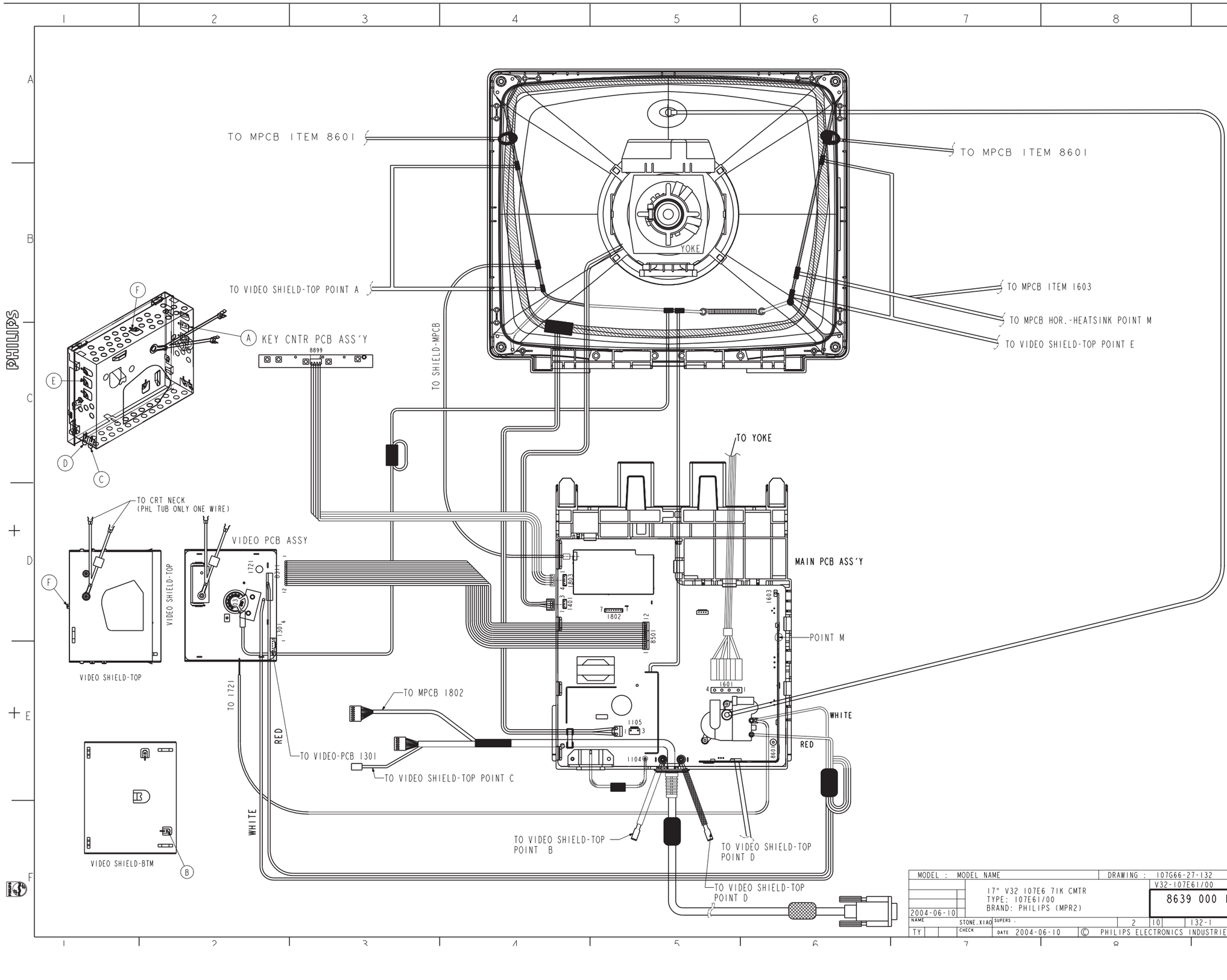


Fig.1

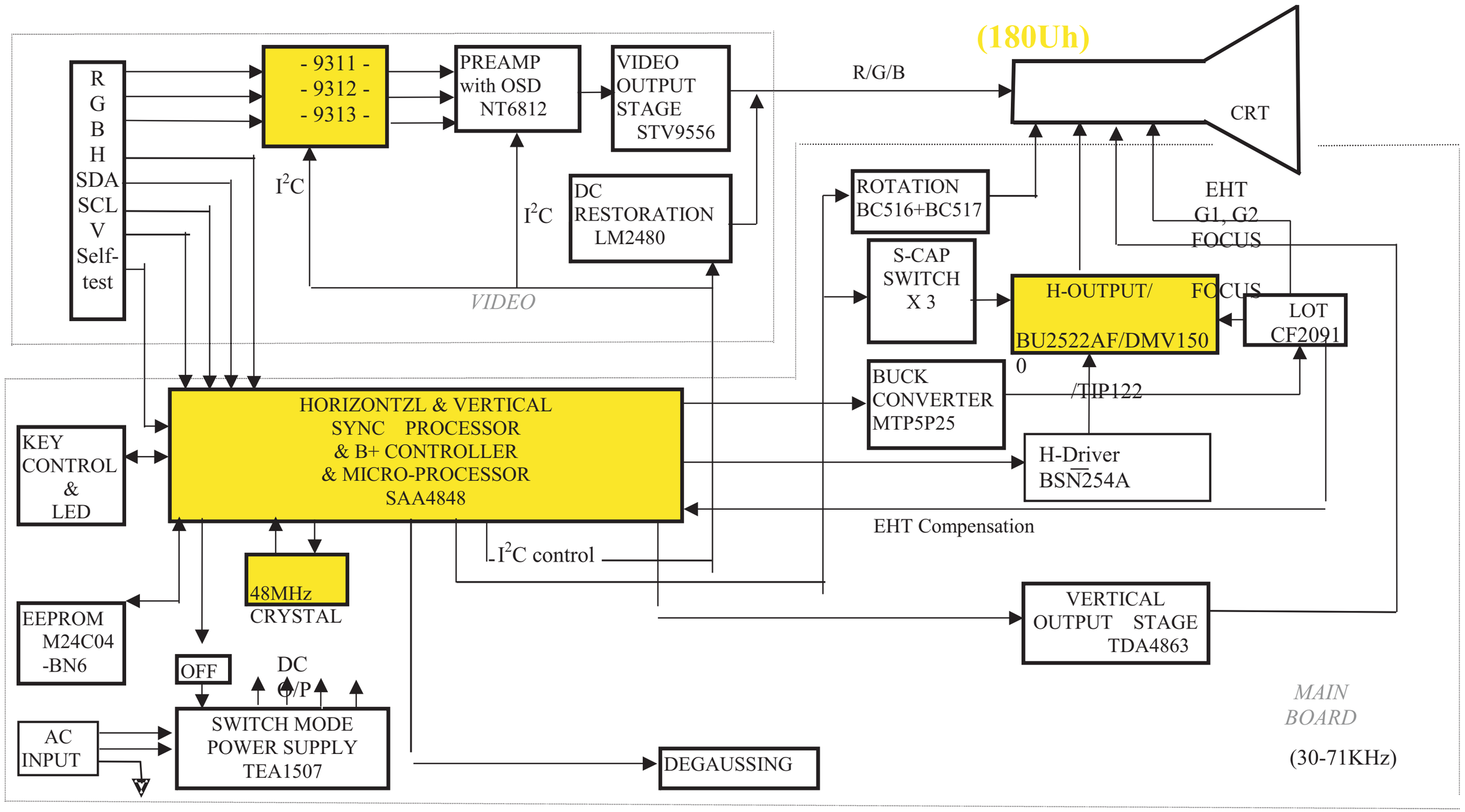
Wiring Diagram



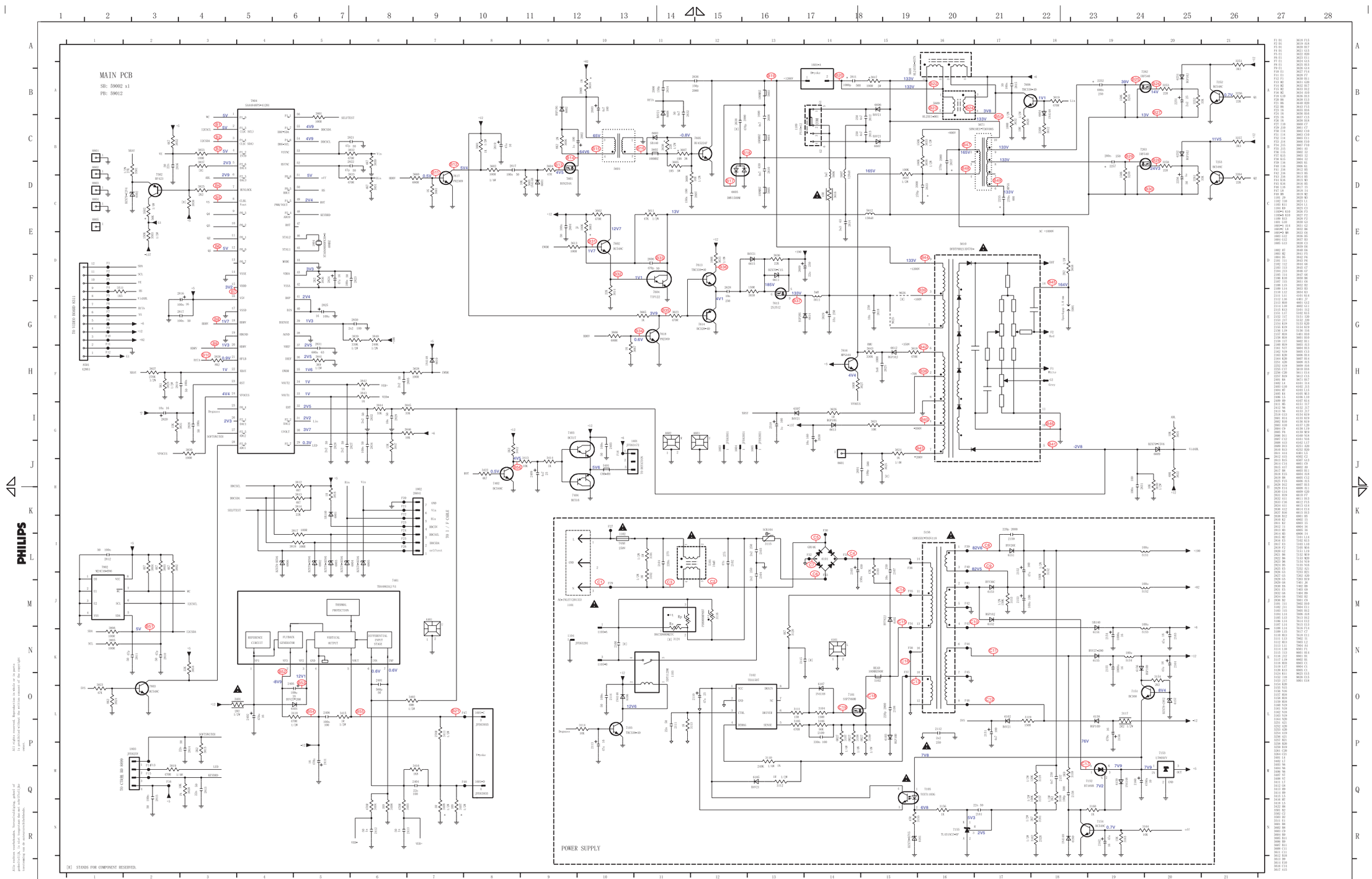
MODEL : MODEL NAME		DRAWING :	107G66-27-132
	17" V32 107E6 7IK CMTR TYPE: 107E61/00 BRAND: PHILIPS (MPR2)		V32-107E61/00
2004-06-10			8639 000 15582
NAME STONE.XIAO	SUPERS -	2 | 10 | 132-1	A2
TY / CHECK / DATE 2004-06-10	© PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD - BE		

Block Diagram

• Function Block of V32 107E6



Main Schematic Diagram



V32 CRT Deviation list *

REF.	LG Tube	ORI Tube	CPT Tube	PHL Tube
2252	680V 250V MPS	680V 250V MPS	680V 250V MPS	560V 250V MPS
2101	235V 400V MPSA	300V 400V MPSA	235V 400V MPSA	235V 400V MPSA
2107	200V 250V MPS	235V 250V MPS	235V 250V MPS	235V 250V MPS
2011	1% 300V NPO	10% 100V MLT	10% 100V MLT	5% 100V MLT
2033	235V 2KV X7R	330P 2KV X7R	235V 2KV X7R	235V 2KV X7R
2047	235V 2KV X7R	270P 2KV X7R	220P 2KV 4H	235V 2KV X7R
3107	10R 1/2W 1%	39Ω 1/2W 1%	39Ω 1/2W 1%	2R 1/2W 1%
3108	2R 1/2W 1%	39Ω 1/2W 1%	39Ω 1/2W 1%	2R2 1/2W 1%

V32 CRT Deviation list *

REF.	LG Tube	ORI Tube	CPT Tube	PHL Tube
3302	30R 1/4W	62R 1/4W	62R 1/4W	68R 1/4W
3402	18R 2W	39R 2W	33R 2W	18R 2W
3617	100R 2W	180R 2W	180R 2W	820R 2W
3620	909Ω	NONE	1R 1/2W	22R 1/2W
3633	390R 1W	470R 1W	680R 1%	560R 1W
3663	100R 1/2W 1%	150R 1/2W 1%	150R 1/2W 1%	150R 1/2W 1%

CHN EC	SITNAME V32		
15.60_30	MAIN BOARD (LG)		
200<0<0<0	107E61/00		
SAM 28 Huang Tao Xu	SYSPEL 1		
CHECK	DATE 2005-05-28		
PHILIPS ELECTRONICS N.V. 2000			

3138 178 6845

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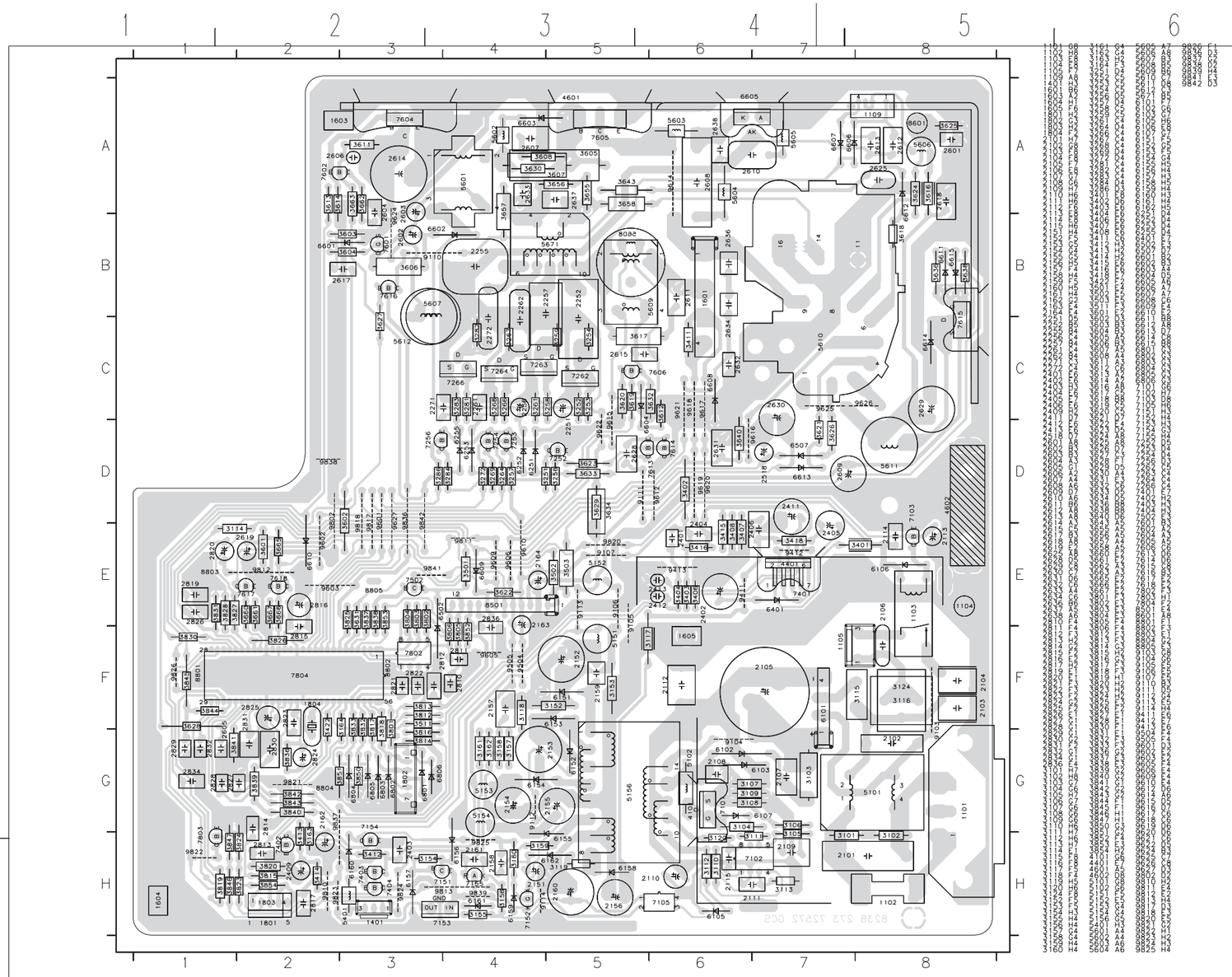
Main Board C.B.A.-1



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CN: ECO_000643	V32 107T6
CLASS NO. 3XX000	PWR+DEF Board V32 CRT MTR
2004-04-09	3138 103 5900
NAME KC Huang/Ivy Su	SUPERS 2 10 132 - 1 A3
CHECK	DATE 2004-04-09

2 2004-05-11
~~1 2004-04-09~~

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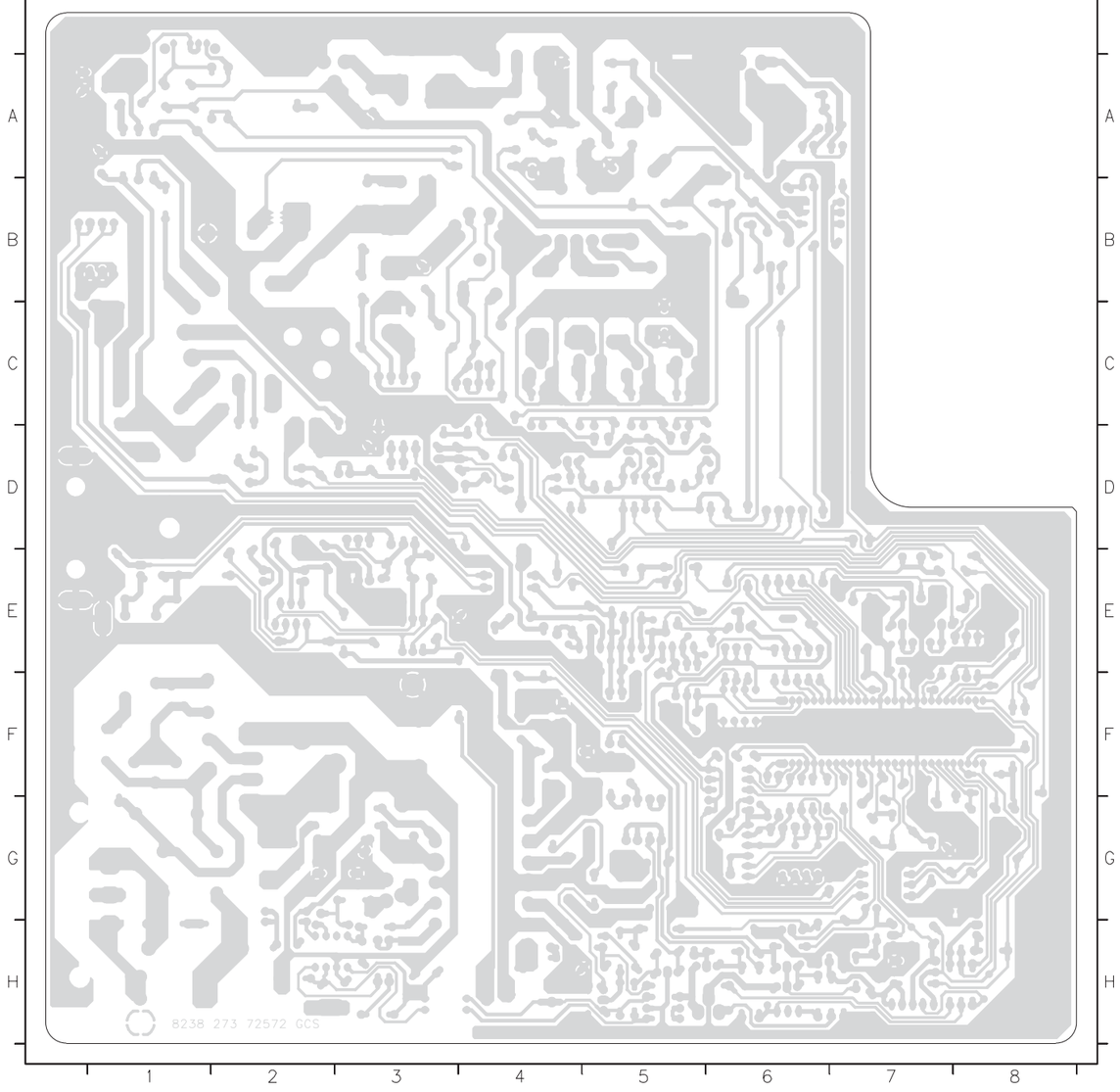
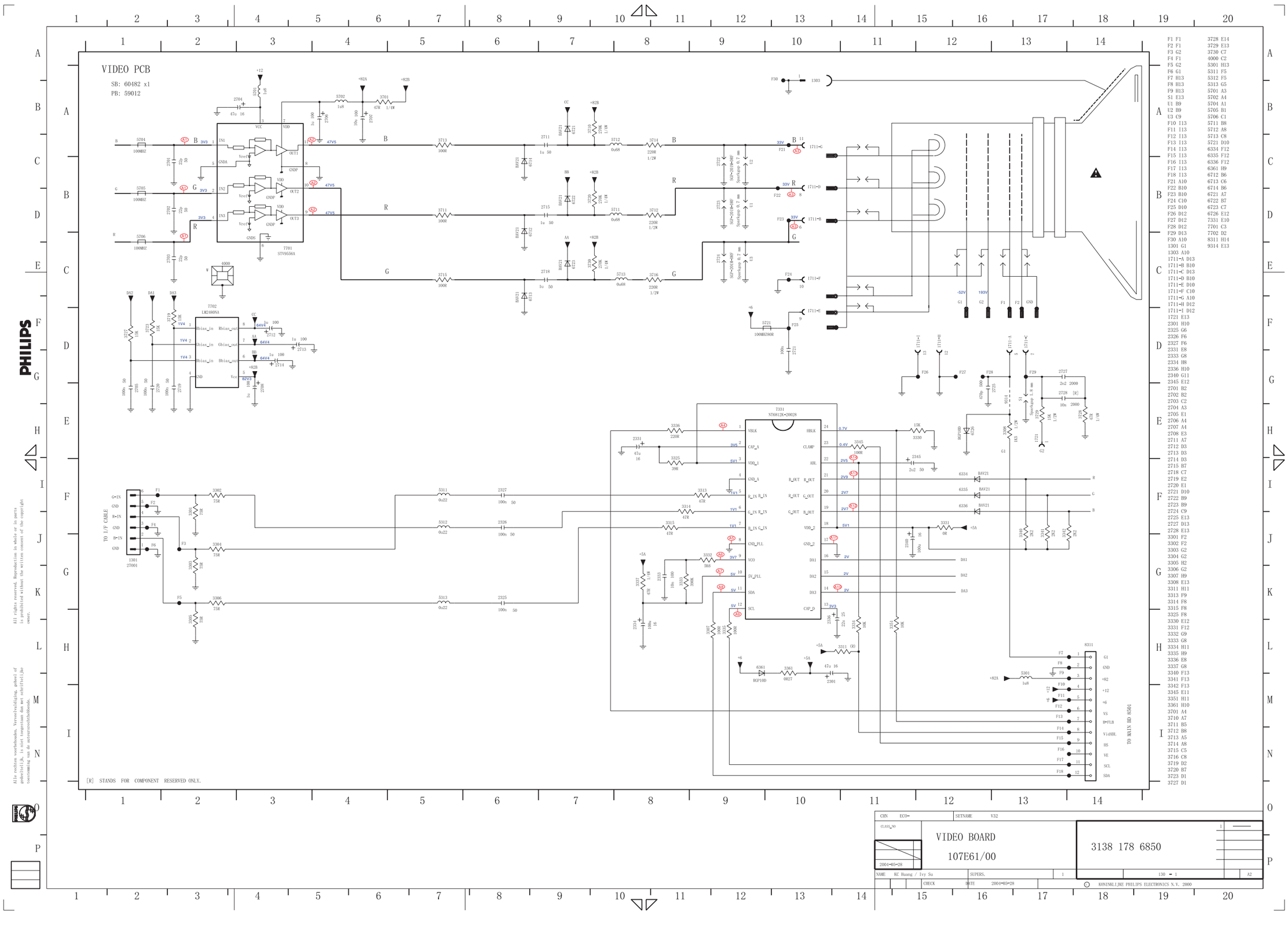


CN: ECO_000643		V32 107T6			
CLASS NO. 3XX000	PWR+DEF Board V32 CRT MTR		3138 103 5900	2	2004-05-11
1 / 2 / 2004-04-09 / 3				1	2004-04-09
NAME KC Huang/Ivy Su	SUPERS	2	10	132 - 2	A3
CHECK	DATE 2004-04-09	©	Philips Electronics N.V.		

Video Schematic Diagram



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Video Board C.B.A-1

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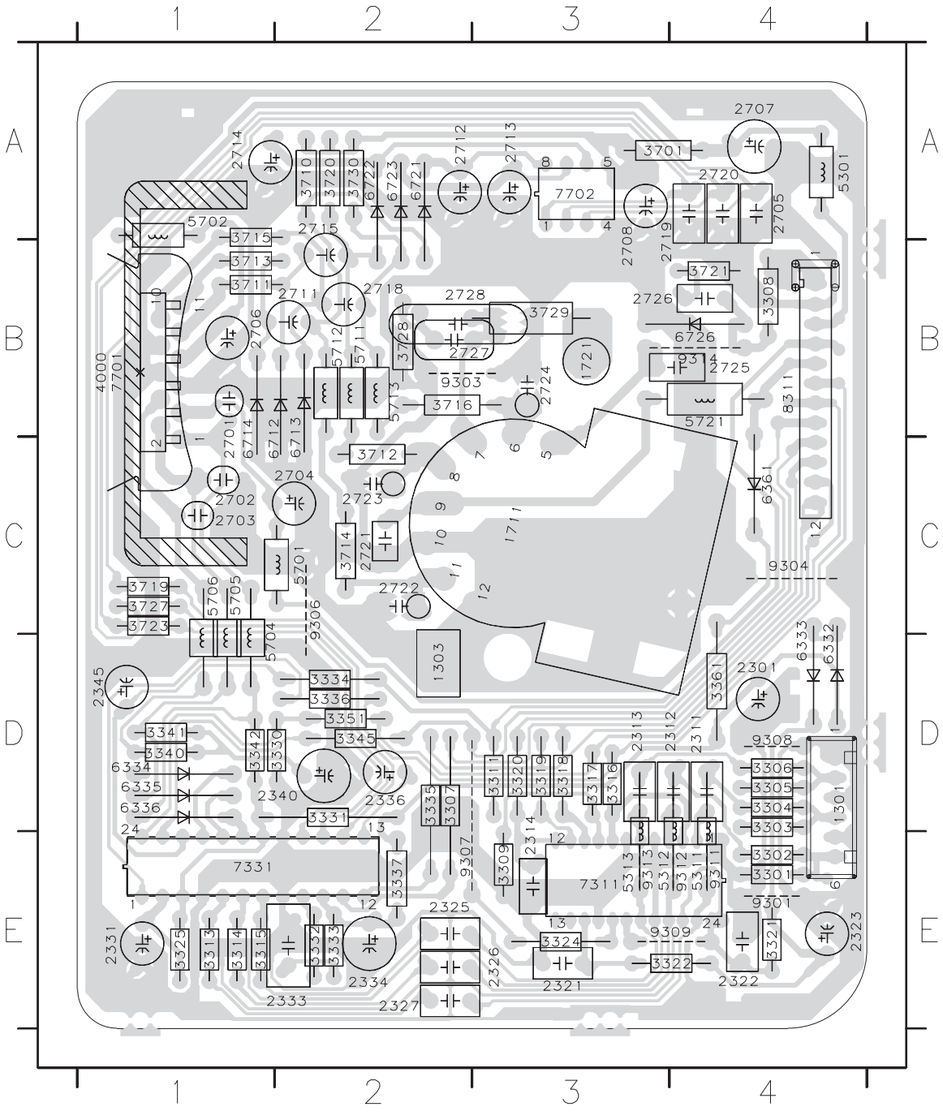
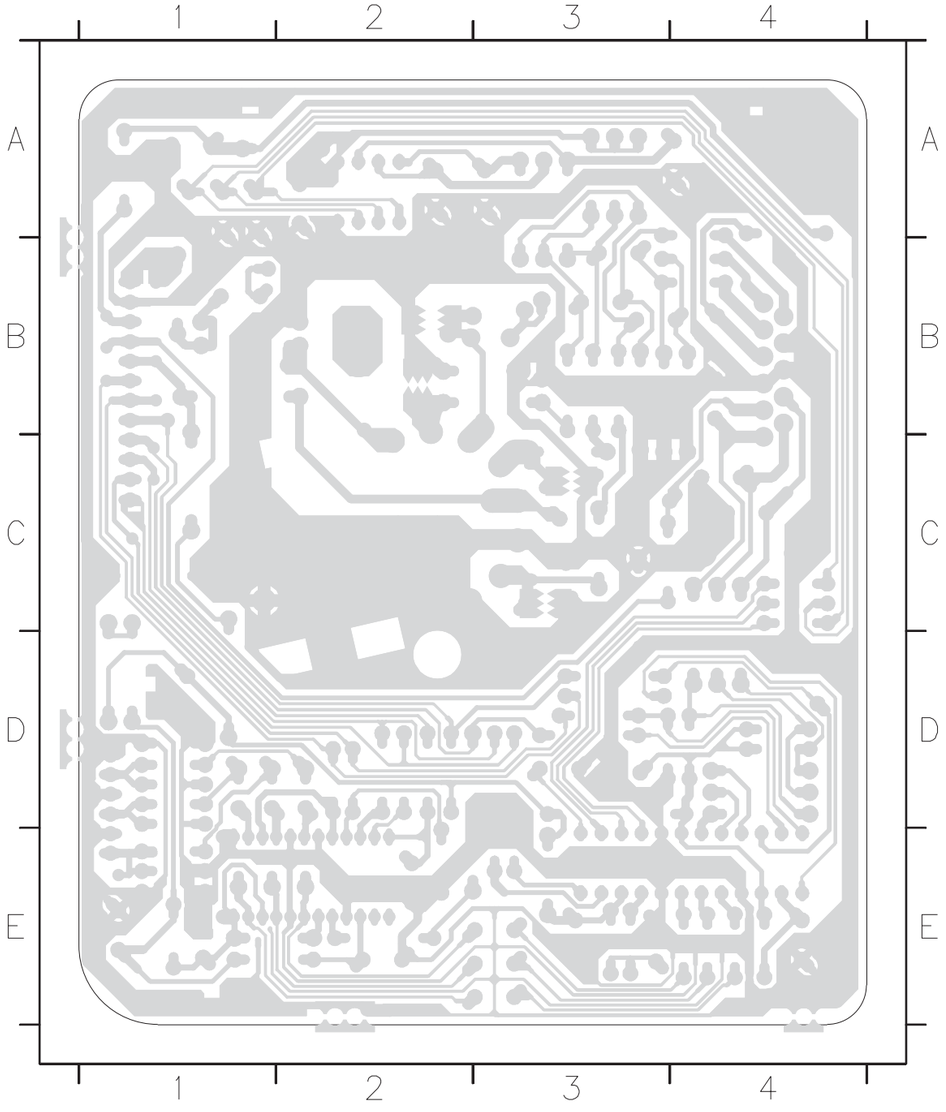


1301	D4	3337	E2	5301	E4
1303	D2	3340	D1	5702	C1
1711	C3	3341	D1	5704	C2
1721	B3	3342	D1	5705	C1
2301	D4	3345	D2	5706	C1
2311	D4	3351	D2	5711	B2
2312	D4	3361	D4	5712	B2
2313	D3	3701	A3	5713	B2
2314	E3	3710	A2	5721	B4
2321	E3	3711	B1	6332	D4
2322	E4	3712	C2	6333	D4
2323	E4	3713	B1	6334	D1
2325	E2	3714	C2	6335	D1
2326	E4	3715	A1	6336	C4
2327	E2	3716	B2	6361	C1
2328	E4	3719	C1	6712	C2
2331	E1	3720	A2	6713	C2
2333	E2	3721	B4	6714	C1
2334	E2	3723	C1	6721	A2
2340	D2	3727	C1	6722	A2
2345	D1	3728	B2	6723	A2
2701	C1	3729	B3	6726	B4
2702	C1	3730	A2	7311	E3
2703	C1	4000	B1	7331	E1
2704	C2	5301	E4	7701	B1
2705	A4	5702	A1	7702	A3
2706	B1	5704	C2	8311	B4
2707	A4	5705	C1	9301	E4
2708	B3	5706	C1	9303	E4
2711	B2	5711	B2	9304	E4
2712	A2	5712	B2	9306	E4
2713	A3	5713	B2	9307	E4
2714	A1	5721	B4	9308	E3
2715	A2	6332	D4	9309	E3
2718	B2	6333	D4	9311	E4
2719	B3	6334	D1	9312	E4
2720	A4	6335	D1	9313	E3
2721	C2	6336	C4	9314	B4
2722	C2	6361	C1		
2723	C2	6712	C2		
2724	B3	6713	C2		
2725	B4	6714	C1		
2726	B3	6721	A2		
2727	B2	6722	A2		
3301	E4	6723	A2		
3302	E4	6726	B4		
3303	D4	7311	E3		
3304	D4	7331	E1		
3305	D4	7701	B1		
3306	D4	7702	A3		
3307	D2	8311	B4		
3308	B4	9301	E4		
3309	E3	9303	E4		
3311	D3	9304	E4		
3313	E1	9306	E4		
3314	E1	9307	E4		
3315	E1	9308	E3		
3316	D3	9309	E3		
3317	D3	9311	E4		
3318	D3	9312	E4		
3319	D3	9313	E3		
3320	D3	9314	B4		
3321	E4				
3322	E4				
3324	E3				
3325	E1				
3330	D2				
3331	D2				
3332	E2				
3333	E2				
3334	D2				
3335	D2				
3336	D2				

CN: EC0-000643		V32 107T6	
CLASS NO. 3XX000	Video Board V32 107T6	3138 103 6048	2 2004-05-11 1 2004-04-09
2004-04-09 3			
NAME KC Huang/Ivy Su	SUPERS	2 10 132 - 1	A3
CHECK	DATE 2004-04-09	© Philips Electronics N.V.	

Video Board C.B.A-2



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CN: ECO-000643	V32 107T6		
CLASS NO. 3XX000	Video Board V32 107T6	3138 103 6048	2 2004-05-11 / ~~1 2004-04-09~~
1 / 2 / 2004-04-09 3			
NAME KC Huang/Ivy Su	SUPERS 2	10 132 - 2	A3
CHECK	DATE 2004-04-09	© Philips Electronics N.V.	

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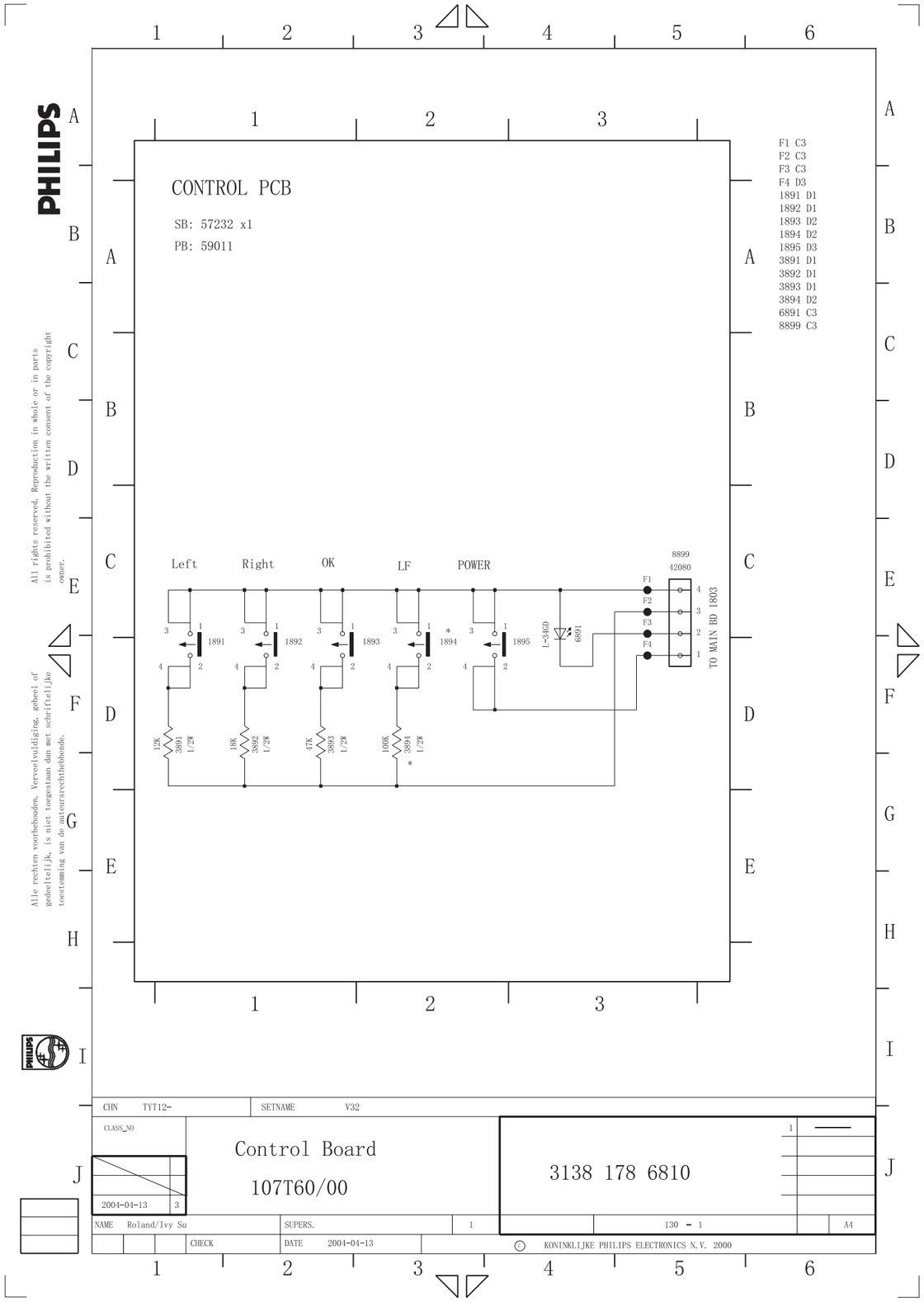
PHILIPS

CONTROL PCB

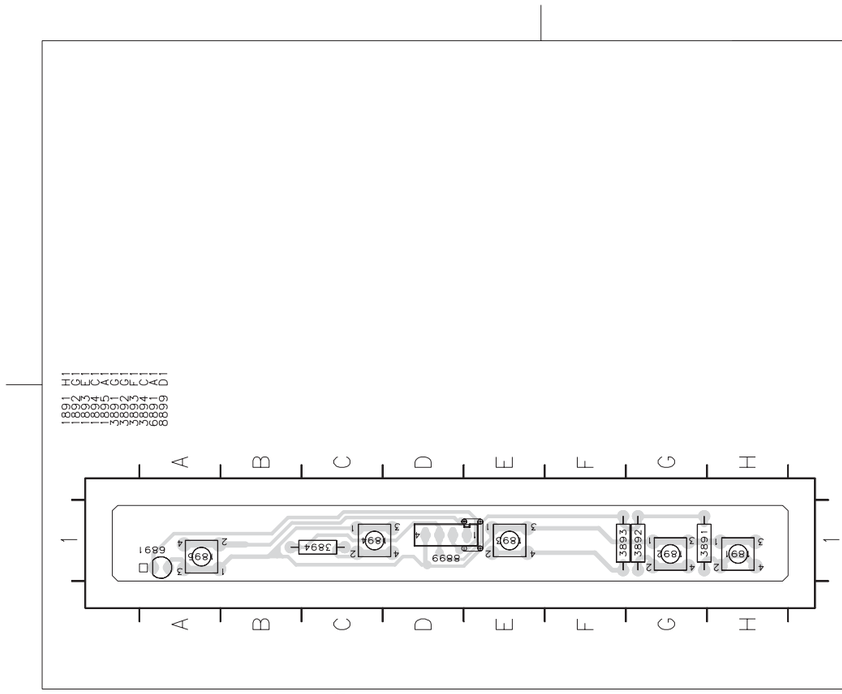
SB: 57232 x1

PB: 59011

F1 C3
F2 C3
F3 C3
F4 D3
1891 D1
1892 D1
1893 D2
1894 D2
1895 D3
3891 D1
3892 D1
3893 D1
3894 D2
6891 C3
8899 C3



CHN TYT12-	SETNAME V32		
CLASS_NO	Control Board 107T60/00	3138 178 6810	1
2004-04-13 3			
NAME Roland/Ivy Su	SUPERS. 1	130 - 1	A4
CHECK	DATE 2004-04-13	© KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000	



CN: TYT12-4189.4190	V20 107E5	3138 103 5723	2 2004-01-15
CLASS NO. 3XX000	Control Board V20 CRT MTR		1 2003-09-08
2002-12-18 3			A4
NAME Roland/Ivy Su	SUPERS 1	132 - 1	
CHECK	DATE 2002-12-18	10	Philips Electronics N.V.

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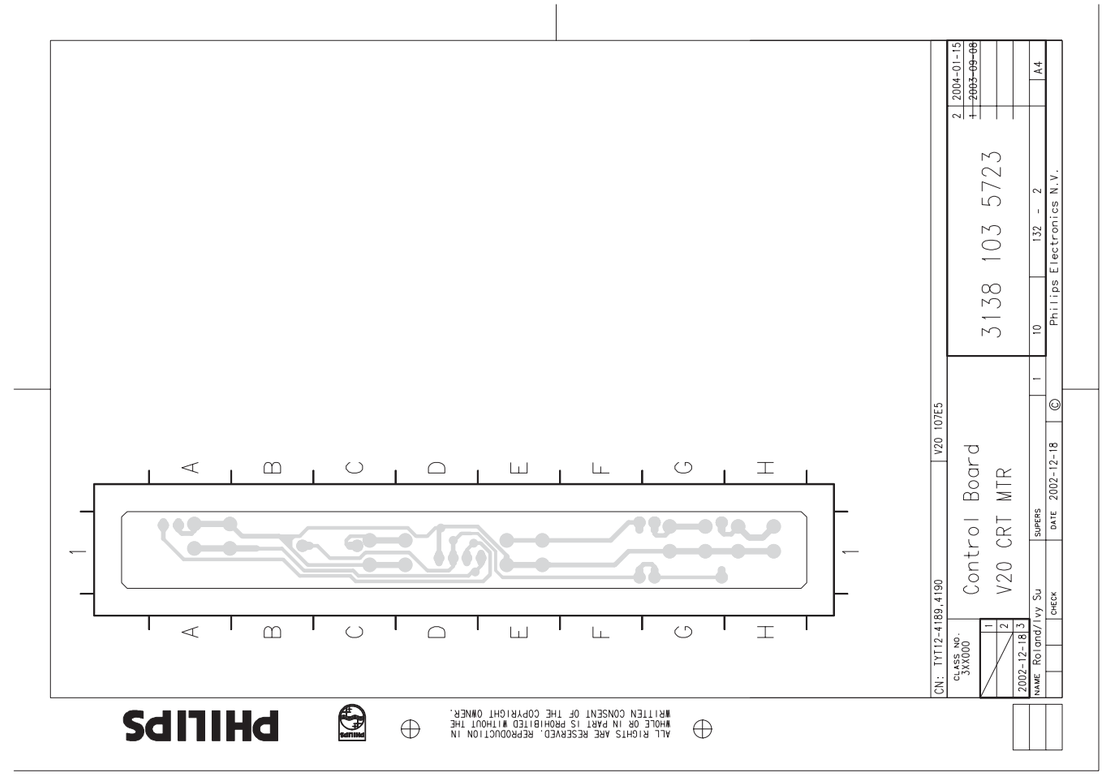

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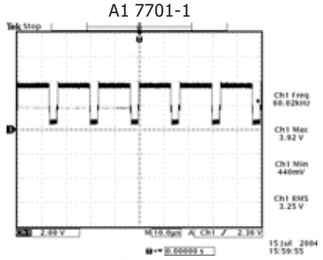
WAVEFORM

A1 7701-1



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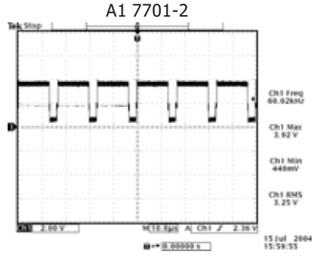

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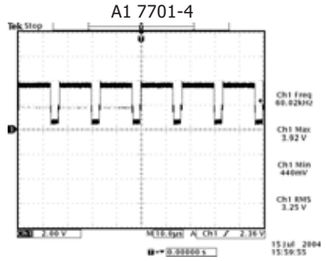

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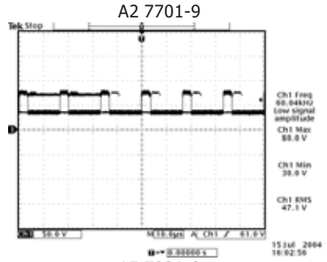

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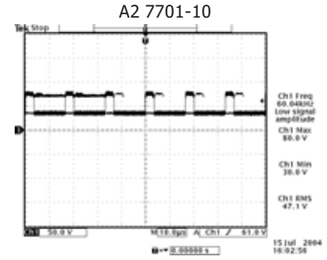

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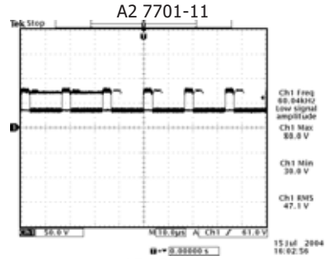

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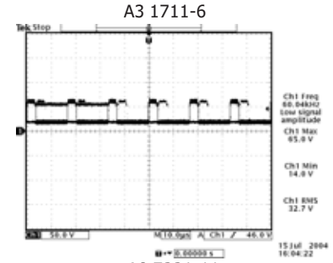

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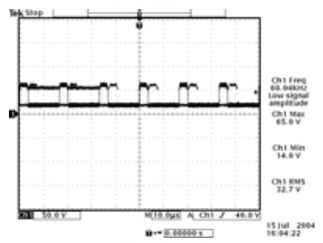

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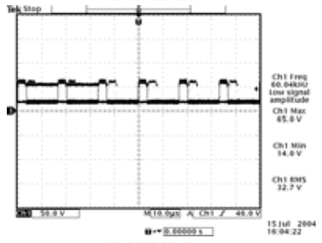

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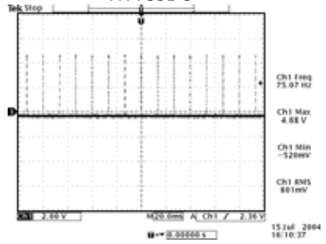

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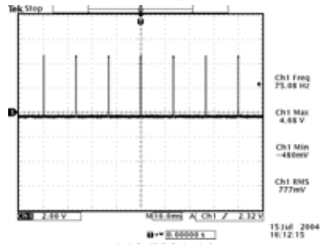

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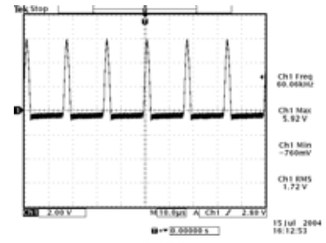

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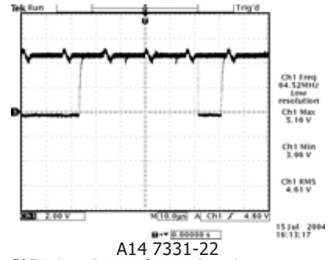

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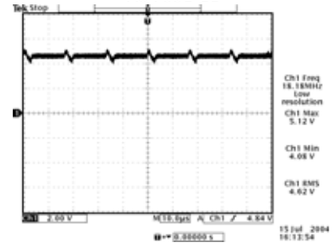

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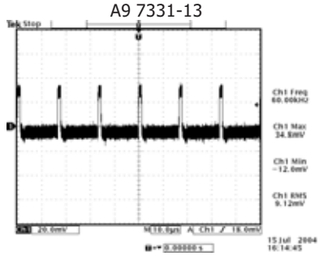

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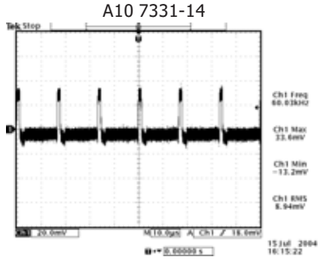

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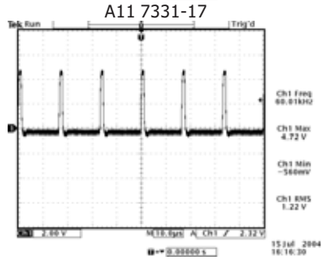

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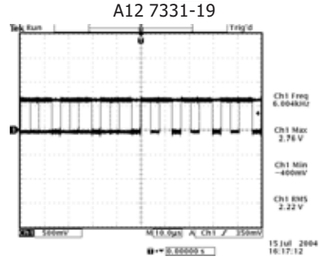

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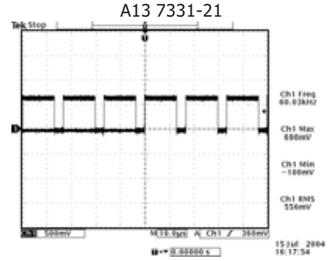

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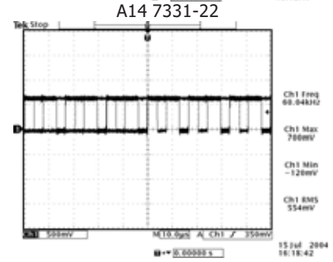

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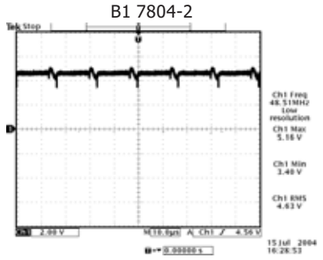

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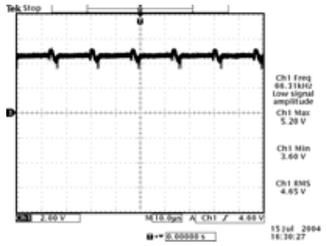

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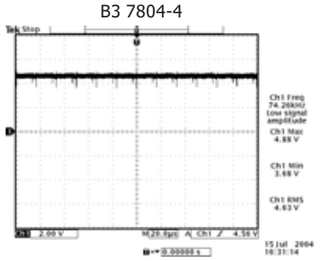

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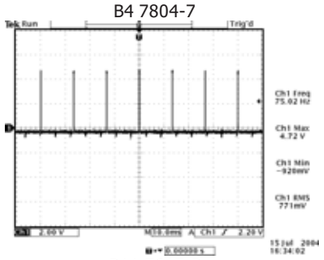

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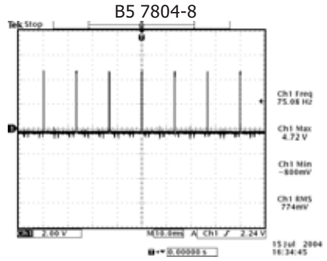

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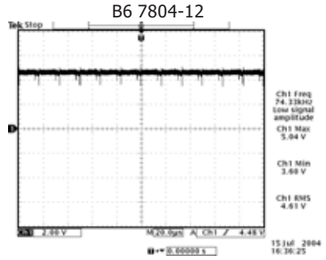

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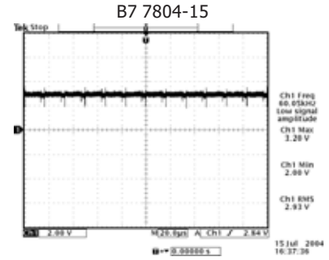

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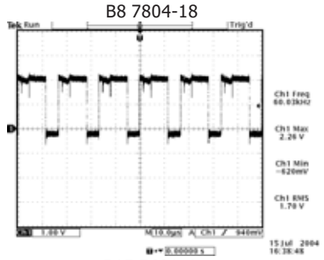

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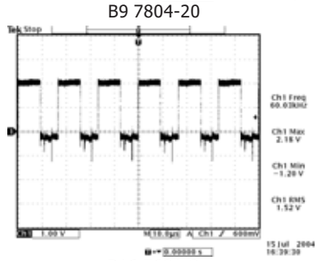

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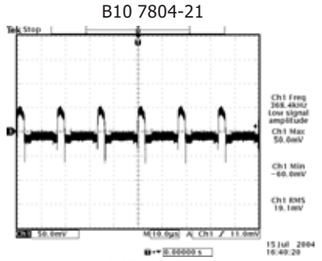

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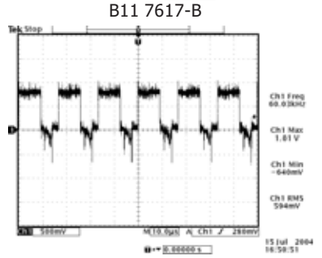

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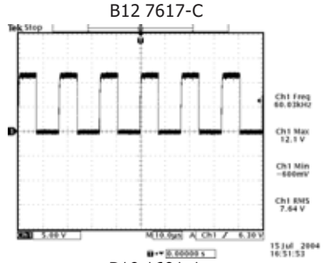

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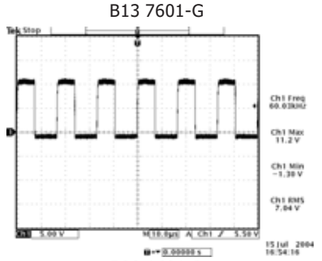

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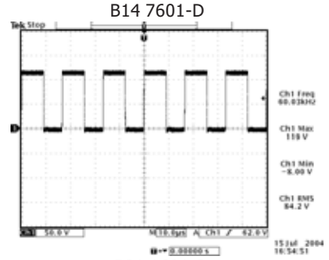

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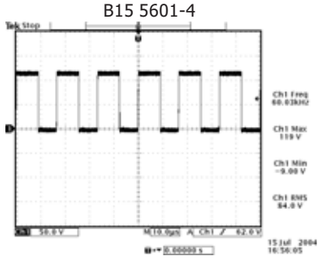

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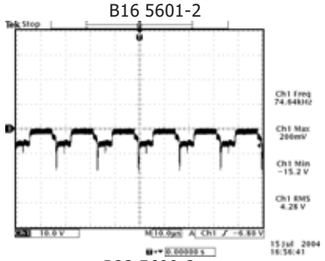

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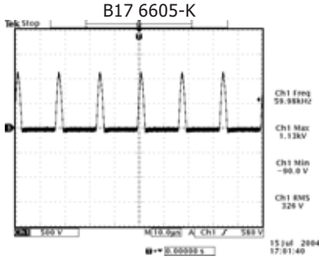

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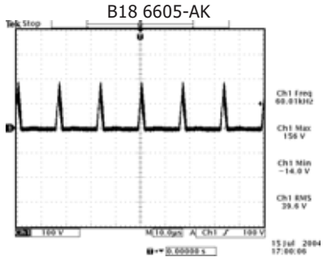

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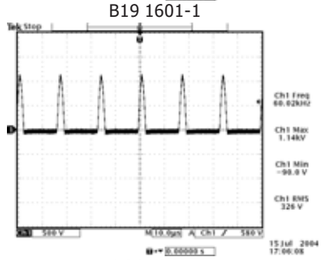

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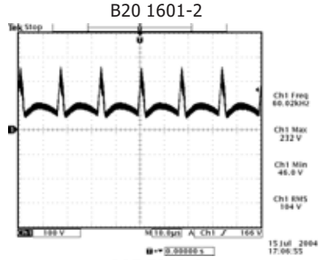

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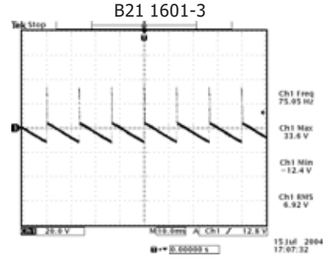

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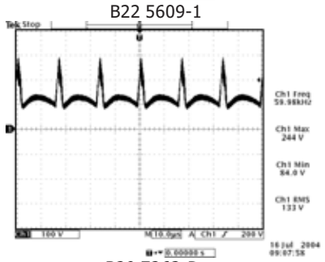
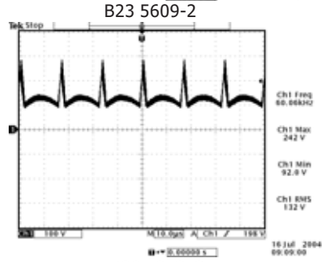


B23 5609-2



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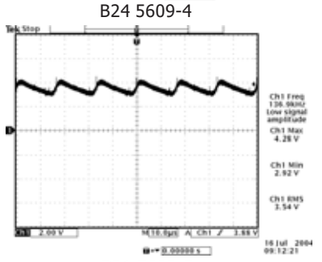
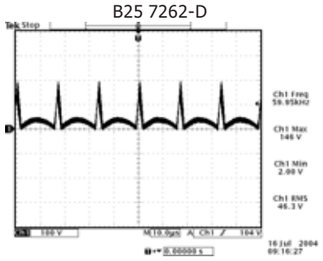
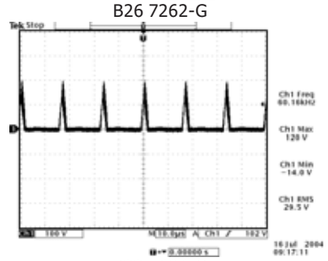


B25 7262-D



B26 7262-G



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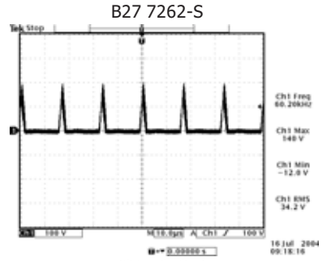

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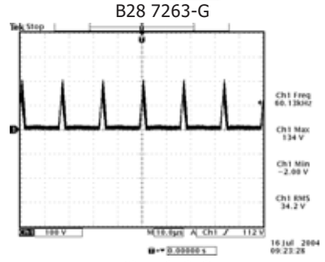

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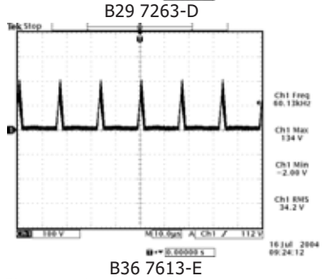

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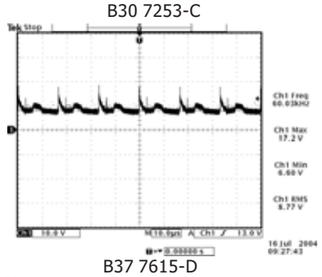

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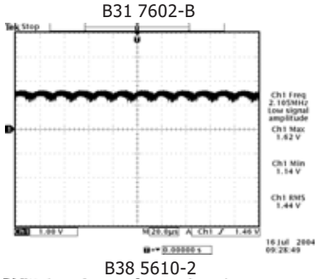

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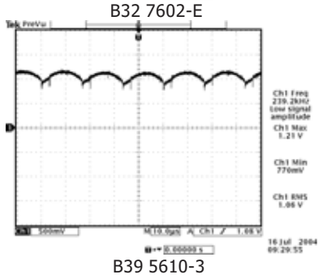

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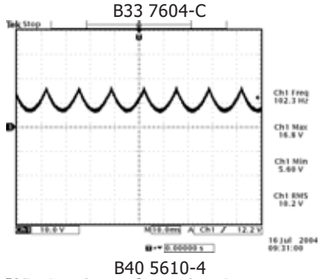
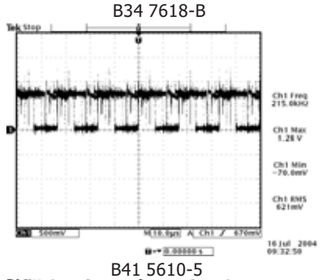


B34 7618-B



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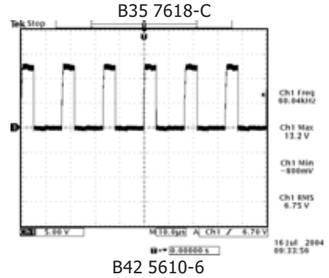

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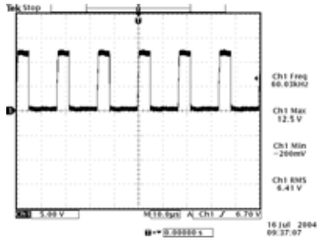

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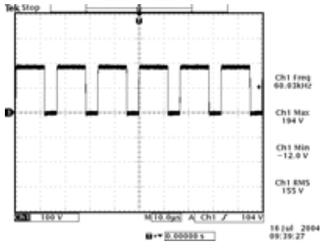
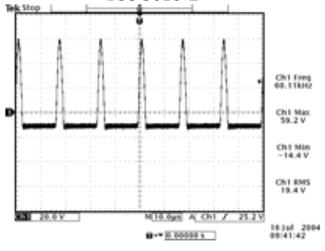


B38 5610-2



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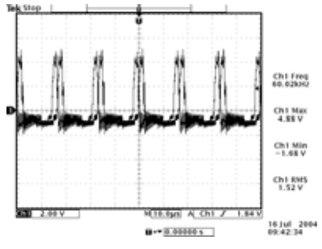

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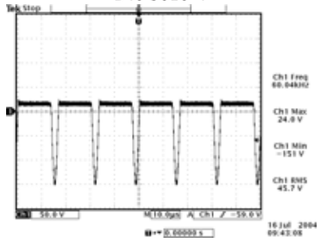

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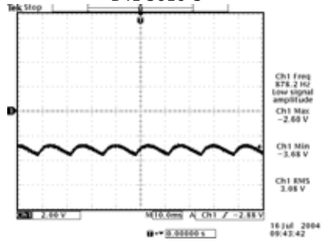

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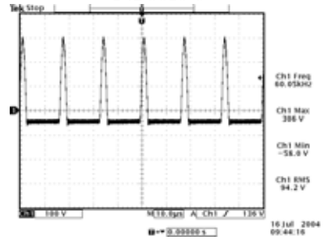
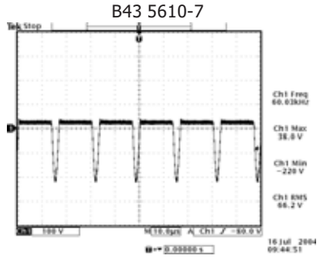


WAVEFORM (Continued)

B43 5610-7



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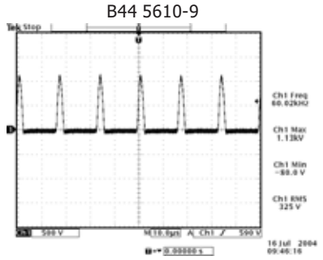

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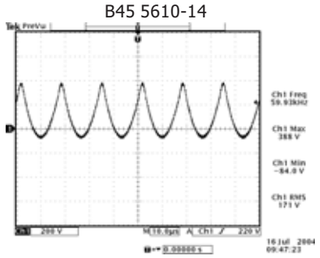

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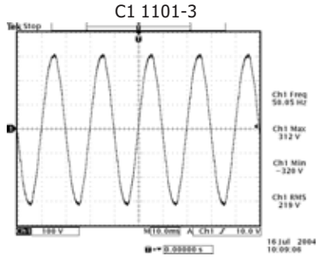
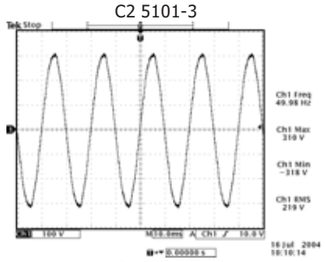
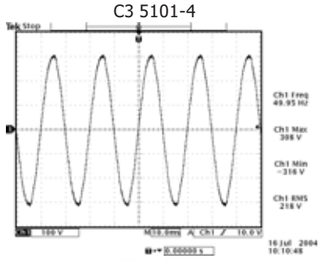


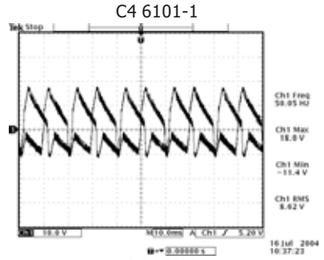
C2 5101-3



C3 5101-4



C4 6101-1



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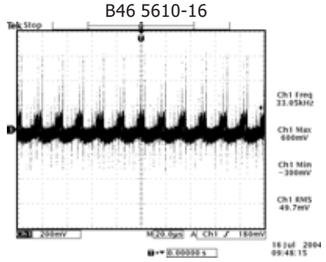

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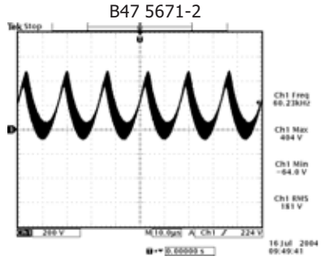

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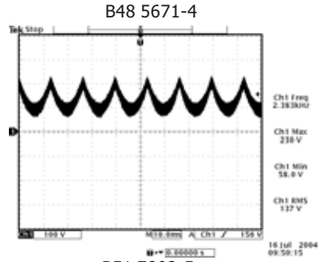

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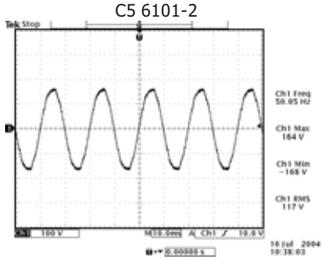
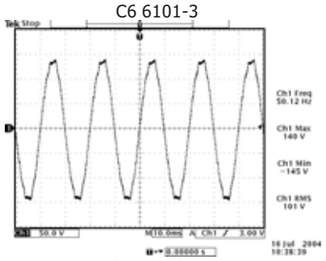
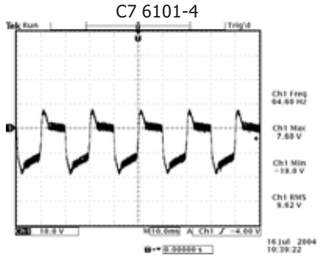


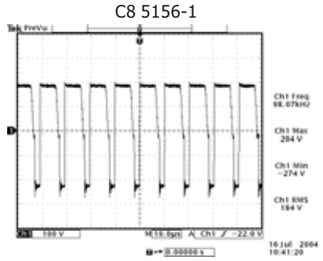
C6 6101-3



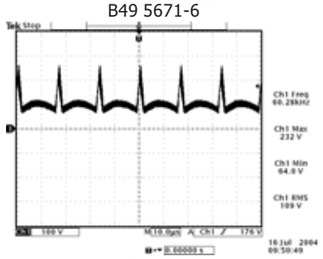
C7 6101-4



C8 5156-1



B49 5671-6



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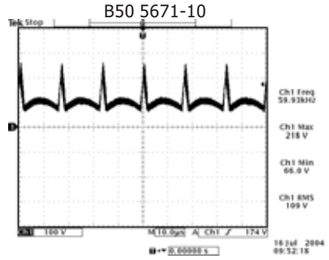
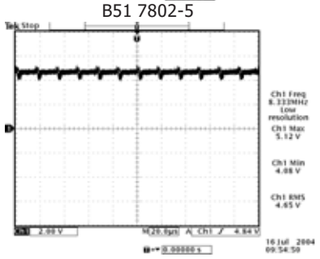
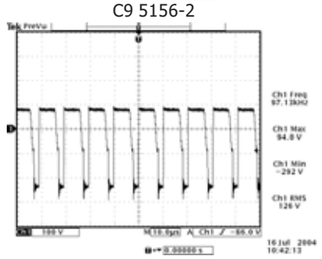


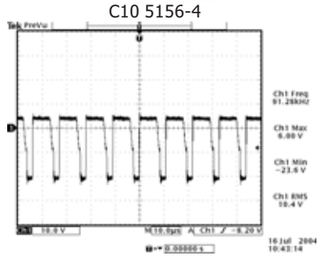
B51 7802-5



C9 5156-2



C10 5156-4



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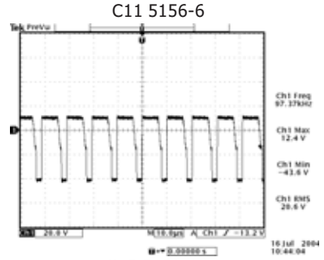

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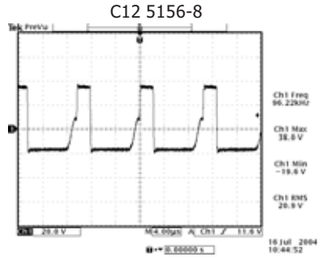

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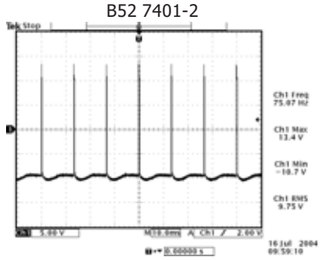

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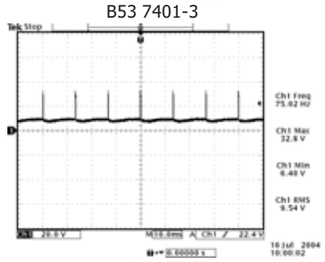

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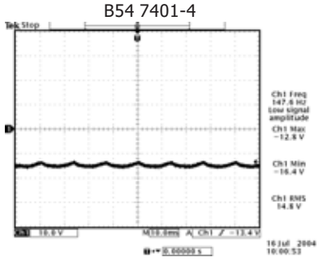

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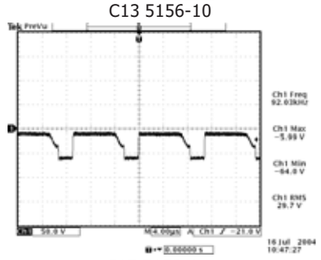
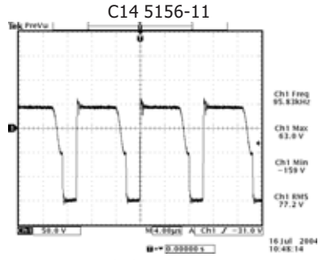


C14 5156-11



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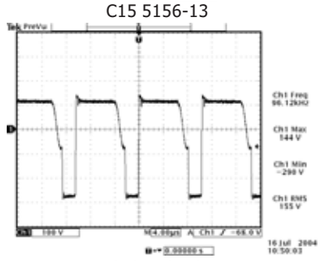

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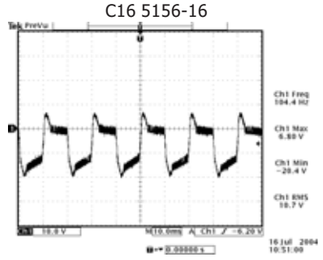

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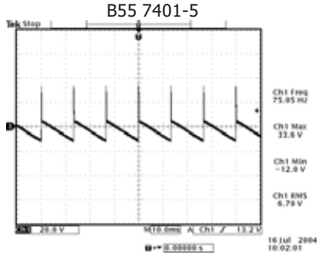
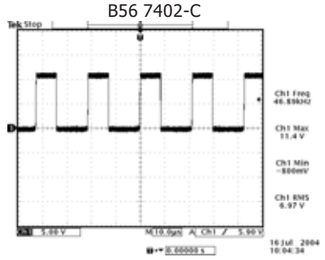
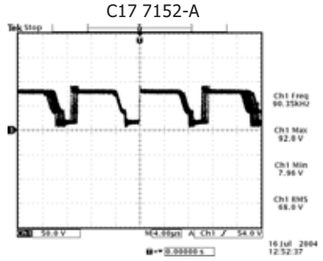


B56 7402-C



C17 7152-A



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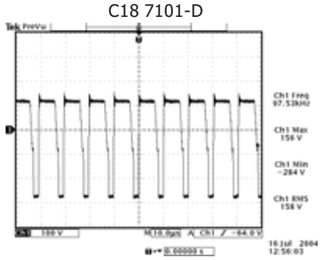
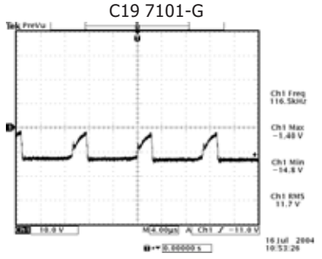
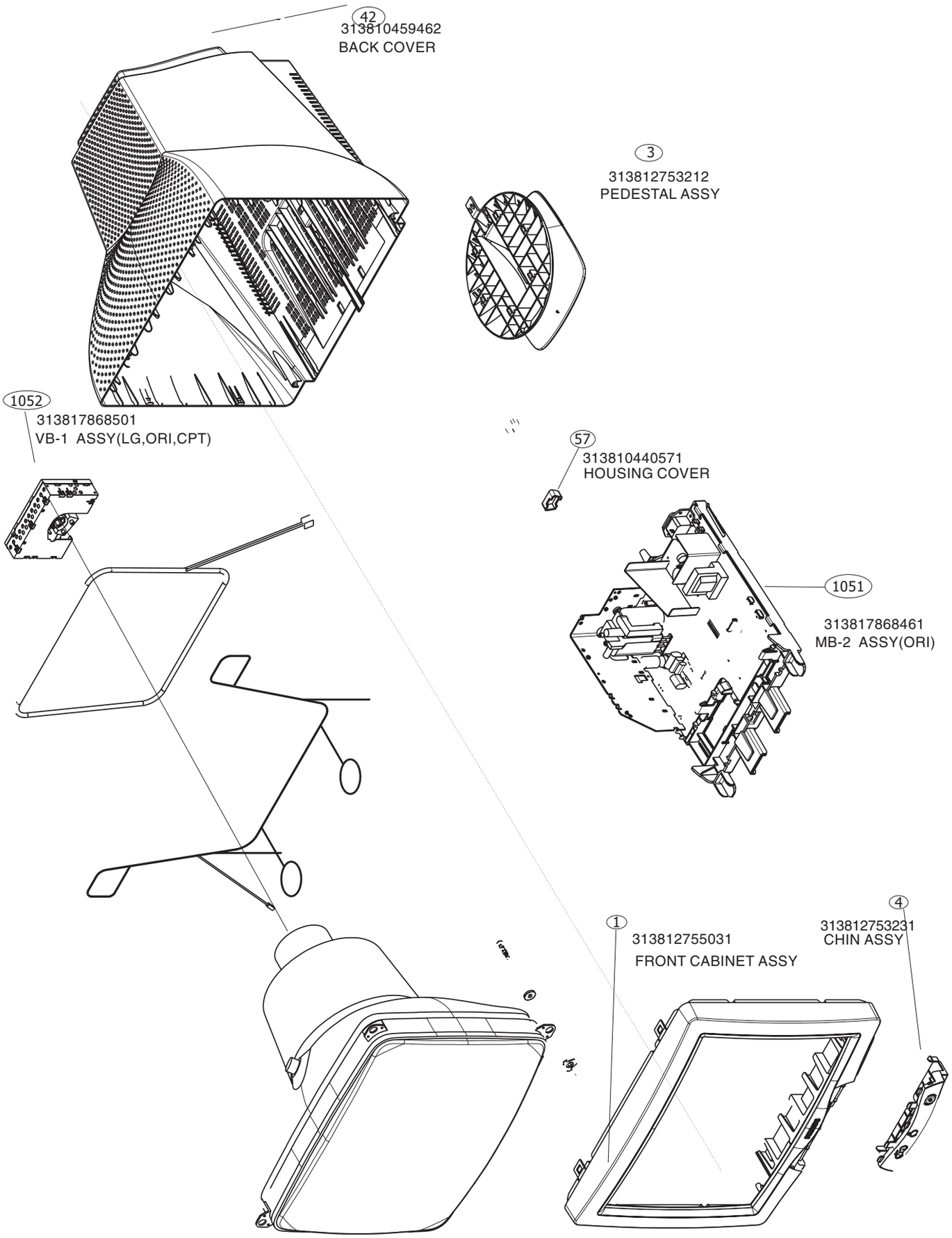


C19 7101-G



Exploded View



Spare Parts List

Model : 107E61/00(CRT LGPD 12NC:930195730323)

Mechanical Parts

0001	313812755031	FRONT CABINET ASSY
0004	313812753231	CHIN ASSY
0003	313812753212	PEDESTAL ASSY
0042	313810459462	BACK COVER

Packing Parts

0454	313810656581	PE BAG
0452	313810662871	CUSHION - TOP
0450	313810663471	CARTON
0451	313810662861	CUSHION - TOP

CRT

1050	930195730323	CRT M41LFQ903X39(PA) (LGPD) B

PCB ASSY

1051	313817868451	MB-1 ASSY (LG)
1051	313817868501	VB-1 ASSY(LG,ORI,CPT)
1053	313817869431	C/B ASSY

Accessory

0601	313811707232	E-D.F.U ASSY
1056	313817874701	MAIN CORD (1.5M. EUROPEAN)
4444	313810610409	CD ROM - SERVICE MANUAL
4444	313810610410	SERVICE MANUAL

Miscellanea

8113	313819873231	CBLE FAST/110/RING TERM AWG18
8114	313819873241	CBLE FAST/110/RING TERM BRAID
8501	313818876362	CBLE OE 12/250/12/OE AWG24
8601	313818877261	CBLE OE/805/OE AWG22
1102	242208600208	FUSE 5X20 HT 4A 250V IEC B
1103	242213207401	RELAY 1P 12V 10A FTR-H2A B
0212	313811580012	LABEL-CPU
0615	313811707142	HEX CODE OF F/W (NO MATL REQ)
0213	313811580311	LABEL-EEPROM (LG)
8751	313818876302	CBLE RING TERM/60/2 CLIP BRAID
1162	313819871541	I/F CABLE

PCB ASSY

1051	313817868451	MB-1 ASSY (LG)

2101	203831000006	CAP MPP 275V S 220N PM10 B
2102	203831000009	CAP MPP 275V S 47N PM10 B
2103	202055490163	CERSAF NSB 250V S 2N2 PM20 B
2104	202055490163	CERSAF NSB 250V S 2N2 PM20 B
2105	202202000843	ELCAP GM 400V S 150U PM20 B
2107	202233300365	CAP PP PPN 250V S 10N PM5 A
2108	225260214216	CER2 DC X7R 2KV S 220P PM10 A
2109	222236525334	CAP MPOL 100V S 330N PM10 A
2110	203803513301	ELCAP RGA 25V S 47U PM20 A
2111	202055290834	CER2 DC F 50V S 22N P8020 A
2112	202055490127	CERSAF NSA 250V S 2N2 PM20 B
2113	202203100266	ELCAP PF 16V S 47U PM20 A
2115	225260114416	CER2 DC X7R 1KV S 470P PM10 A
2151	203803521701	ELCAP GS 100V S 4U7 PM20 A
2152	202202000934	ELCAP SM 160V S 47U PM20 B
2153	203803527706	ELCAP KM 100V S 100U PM20 B
2154	203803513205	ELCAP RGA 16V S 1000U PM20 B
2155	203803513205	ELCAP RGA 16V S 1000U PM20 B
2156	202202000909	ELCAP SM 16V S 470U PM20 A
2157	202233300364	CAP PP PPN 250V S 4N7 PM5 A
2158	202055790142	CER2 DC B 500V S 100P PM10 A
2160	202202000716	ELCAP GS 10V S 4700U PM20 B
2161	202055290834	CER2 DC F 50V S 22N P8020 A
2162	202202000906	ELCAP SM 16V S 47U PM20 A
2163	202202000906	ELCAP SM 16V S 47U PM20 A
2164	202202000906	ELCAP SM 16V S 47U PM20 A
2251	202202000912	ELCAP SM 25V S 2U2 PM20 A
2252	203830100226	CAP MPP MPS 250V S 680N PM5 B
2255	203830100425	CAP MPP MPSA 400V S 270N PM5 B
2256	202202000836	ELCAP GS 50V S 1U PM20 A
2257	203830100414	CAP MPP MPS 250V S 200N PM5 B
2401	225261508021	CER2 DC Y5P 50V S 1N PM10 A
2402	202202000909	ELCAP SM 16V S 470U PM20 A
2403	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2404	202231800224	CAP MPOL 100V S 22N PM10 A
2405	203803511402	ELCAP REA 35V S 100U PM20 A
2406	203830250095	CAP MPOL 100V S 100N PM10 A
2409	203803521302	ELCAP GS 25V S 4U7 PM20 A
2411	202202000909	ELCAP SM 16V S 470U PM20 A
2412	225261508021	CER2 DC Y5P 50V S 1N PM10 A
2413	225261508021	CER2 DC Y5P 50V S 1N PM10 A
2518	203803511701	ELCAP REA 100V S 1U PM20 A
2601	225260808011	CER2 DC X7R 500V S 100P PM10 A
2602	203803511701	ELCAP REA 100V S 1U PM20 A
2603	203803521701	ELCAP GS 100V S 4U7 PM20 A
2604	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2605	225261508221	CER2 DC Y5P 50V S 2N2 PM10 A
2606	225261508411	CER2 DC Y5P 50V S 470P PM10 A
2607	203830250121	CAP MPOL 100V S 150N PM10A
2608	203830100119	CAP PP-MPP 1K6V S 4N7 PM5 B
2609	202202000729	ELCAP GS 250V S 22U PM20 B
2610	203830100163	CAP PP PPN 630V S 5N6 PM5 B
2611	225260808021	CER2 DC X7R 500V S 1N PM10 A
2612	202233300364	CAP PP PPN 250V S 4N7 PM5 A
2613	202233300364	CAP PP PPN 250V S 4N7 PM5 A
2614	202203600004	ELCAP BP DB-H 63V S 3U3 PM20 B
2615	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2617	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2618	202231800222	CAP MPOL 250V S 10N PM5 A
2625	225264133527	CER2 DC Z5U 1KV S 5N6 PM20 B
2628	202233300365	CAP PP PPN 250V S 10N PM5 A
2629	202202000731	ELCAP GS 250V S 33U PM20 B
2630	203803513803	ELCAP RGA 160V S 10U PM20 B
2631	202231800224	CAP MPOL 100V S 22N PM10 A
2632	202055290816	CER2 DC B 50V S 4N7 PM10 A
2633	225260214266	CER2 DC X7R 2KV S 270P PM10 A
2634	225260208116	CER2 DC X7R 2KV S 150P PM10 A
2636	225260208116	CER2 DC X7R 2KV S 150P PM10 A
2637	225271214266	CERHDT F-Y5R 2KV S 270P PM10 A
2810	225250508405	CER1 DC NP0 50V S 47P PM5 A
2811	225250508405	CER1 DC NP0 50V S 47P PM5 A
2812	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2813	202055290834	CER2 DC F 50V S 22N P8020 A
2814	202055290834	CER2 DC F 50V S 22N P8020 A
2815	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2816	203803511204	ELCAP REA 16V S 100U PM20 A
2817	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2819	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2820	203801750215	ELCAP REA 16V S 10U PM20 A
2821	225250508405	CER1 DC NP0 50V S 47P PM5 A
2822	225250508405	CER1 DC NP0 50V S 47P PM5 A
2823	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2824	203803513201	ELCAP RGA 16V S 100U PM20 A
2825	202202000942	ELCAP SS 16V S 100U PM20 A
2826	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2827	225261508221	CER2 DC Y5P 50V S 2N2 PM10 A
2828	225261508221	CER2 DC Y5P 50V S 2N2 PM10 A
2829	202055290833	CER2 DC F 50V S 10N P8020 A
2830	203830150189	CAP PP PPN 100V S 2N2 PM2 A
2831	222236575684	CAP MPOL 63V S 680N PM10 A
2832	225261508221	CER2 DC Y5P 50V S 2N2 PM10 A
2834	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2836	202055290834	CER2 DC F 50V S 22N P8020 A

3101	212211600399	RST MFLM MF0207 A 1M PM1 A
3102	212211600399	RST MFLM MF0207 A 1M PM1 A
3103	313810050511	MET FLM RST RSS2T 47K 6E
3104	212210101441	RST CRB CF1/4 A 150R PM5 A
3105	213810113471	RST CRB CFR-12 A 470R PM5 A
3106	213810113563	RST CRB CFR-12 A 56K PM5 A
3107	213811273277	RST CRB CFR-25 A 0R27 PM5 A
3108	213811273277	RST CRB CFR-25 A 0R27 PM5 A
3109	213811273277	RST CRB CFR-25 A 0R27 PM5 A
3110	213811273244	RST CRB CFR-25 A 240K PM5 A
3111	213810113159	RST CRB CFR-12 A 15R PM5 A
3112	212211600289	RST MFLM MF0207 A 1R PM1 A
3113	213810113102	RST CRB CFR-12 A 1K PM5 A
3114	212210101469	RST CRB CF1/4 A 10K PM5 A
3115	213866000027	NTC DC SCK-104 S 10R PM15 B
3116	212266300024	PTC 270V S 9R PM20 B
3117	212020200016	RST FUSE RFU1/3 A 2R2 PM5 A
3118	212211000412	RST MFLM MF1/2WS A 120K PM1 A
3119	213810113151	RST CRB CFR-12 A 150R PM5 A
3120	212210102197	RST CRB CF1/6 A 4K7 PM5 A
3152	212211600386	RST MFLM MF0207 A 150K PM1 A
3153	212211600386	RST MFLM MF0207 A 150K PM1 A
3154	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3155	212210102178	RST CRB CF1/6 A 47R PM5 A
3156	213810113102	RST CRB CFR-12 A 1K PM5 A
3157	231291511004	RST MFLM MBB0207 A 100K PM1 A
3158	212211600343	RST MFLM MF0207 A 2K2 PM1 A
3159	213810113392	RST CRB CFR-12 A 3K9 PM5 A
3160	213810113102	RST CRB CFR-12 A 1K PM5 A
3161	212211600346	RST MFLM MF0207 A 2K7 PM1 A
3162	212211600423	RST MFLM MF0207 A 232R PM1 A
3163	213810113153	RST CRB CFR-12 A 15K PM5 A
3164	212210102201	RST CRB CF1/6 A 10K PM5 A
3251	212210102195	RST CRB CF1/6 A 3K3 PM5 A
3252	212210102207	RST CRB CF1/6 A 33K PM5 A
3253	213810113229	RST CRB CFR-12 A 22R PM5 A
3254	212210102215	RST CRB CF1/6 A 150K PM5 A
3256	212210102205	RST CRB CF1/6 A 22K PM5 A
3257	212210102195	RST CRB CF1/6 A 3K3 PM5 A
3258	213810113229	RST CRB CFR-12 A 22R PM5 A
3259	212210102215	RST CRB CF1/6 A 150K PM5 A
3261	212210102207	RST CRB CF1/6 A 33K PM5 A
3264	212210102205	RST CRB CF1/6 A 22K PM5 A
3401	212020200016	RST FUSE RFU1/3 A 2R2 PM5 A
3402	212211000443	RST MFLM MF1/2WS A 6M8 PM1 A
3403	213810113471	RST CRB CFR-12 A 470R PM5 A
3404	213810113471	RST CRB CFR-12 A 470R PM5 A
3406	213810113182	RST CRB CFR-12 A 1K8 PM5 A
3407	231291511808	RST MFLM MBB0207 A 1R8 PM1 A
3408	212211600293	RST MFLM MF0207 A 2R PM1 A
3411	212211000341	RST MFLM MF1/2WS A 270R PM1 A
3412	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3413	212210102201	RST CRB CF1/6 A 10K PM5 A
3414	213810113102	RST CRB CFR-12 A 1K PM5 A
3415	212211600289	RST MFLM MF0207 A 1R PM1 A
3416	213810113182	RST CRB CFR-12 A 1K8 PM5 A
3418	212211600328	RST MFLM MF0207 A 470R PM1 A
3422	212210102197	RST CRB CF1/6 A 4K7 PM5 A
3501	231291512703	RST MFLM MBB0207 A 27K PM1 A
3502	213811273563	RST CRB CFR-25 A 56K PM5 A
3503	212011300008	RST MGL RMU12 A 82K PM5 A
3511	212210102191	RST CRB CF1/6 A 1K5 PM5 A
3601	231291516801	RST MFLM MBB0207 A 680R PM1 A
3602	213811273101	RST CRB CFR-25 A 100R PM5 A
3603	212210102201	RST CRB CF1/6 A 10K PM5 A
3604	213810113229	RST CRB CFR-12 A 22R PM5 A
3606	212010592167	RST MOX 2W RSS S 8K2 PM5 B
3607	212010592459	RST MOX 3W RSS S 1R8 PM5 B
3608	231291511009	RST MFLM MBB0207 A 10R PM1 A
3611	212211000401	RST MFLM MF1/2WS A 47K PM1 A
3612	213810113221	RST CRB CFR-12 A 220R PM5 A
3613	212210102181	RST CRB CF1/6 A 100R PM5 A
3614	212210102205	RST CRB CF1/6 A 22K PM5 A
3616	232220533159	RST FUSE NFR25 A 15R PM5 A
3617	212010592155	RST MOX 2W RSS S 100R PM5 B
3618	213810113471	RST CRB CFR-12 A 470R PM5 A
3619	213810113471	RST CRB CFR-12 A 470R PM5 A
3620	231291511009	RST MFLM MBB0207 A 10R PM1 A
3621	212210102175	RST CRB CF1/6 A 10R PM5 A
3622	212210102212	RST CRB CF1/6 A 68K PM5 A
3623	213810113471	RST CRB CFR-12 A 470R PM5 A
3624	213811273102	RST CRB CFR-25 A 1K PM5 A
3626	212210100295	RST CRB CF1/4 A 1R PM5 A
3627	212210102181	RST CRB CF1/6 A 100R PM5 A
3628	212210102181	RST CRB CF1/6 A 100R PM5 A
3631	213810113682	RST CRB CFR-12 A 6K8 PM5 A
3632	212211600316	RST MFLM MF0207 A 100R PM1 A
3633	213811273101	RST CRB CFR-25 A 100R PM5 A
3634	212020200036	RST FUSE RFS1W S 390R PM5 A
3636	212210102205	RST CRB CF1/6 A 22K PM5 A
3638	213810113151	RST CRB CFR-12 A 150R PM5 A
3640	231291511003	RST MFLM MBB0207 A 10K PM1 A
3643	232224183304	RST MGL VR25 A 330K PM1 A
3655	212211600386	RST MFLM MF0207 A 150K PM1 A
3656	212211600387	RST MFLM MF0207 A 180K PM1 A
3657	212011300006	RST MGL RMU12 A 100K PM5 A
3658	212011300005	RST MGL RMU12 A 2K2 PM5 A
3660	213810113471	RST CRB CFR-12 A 470R PM5 A
3661	213810113102	RST CRB CFR-12 A 1K PM5 A
3662	213810113471	RST CRB CFR-12 A 470R PM5 A
3663	231291511004	RST MFLM MBB0207 A 100K PM1 A
3665	213810113102	RST CRB CFR-12 A 1K PM5 A
3666	213810113471	RST CRB CFR-12 A 470R PM5 A
3667	213810113102	RST CRB CFR-12 A 1K PM5 A
3801	212210102181	RST CRB CF1/6 A 100R PM5 A
3802	212210102197	RST CRB CF1/6 A 4K7 PM5 A
3803	212210102197	RST CRB CF1/6 A 4K7 PM5 A
3804	212210102197	RST CRB CF1/6 A 4K7 PM5 A
3805	212210102181	RST CRB CF1/6 A 100R PM5 A
3806	212210102181	RST CRB CF1/6 A 100R PM5 A
3812	212210102197	RST CRB CF1/6 A 4K7 PM5 A
3813	212210102197	RST CRB CF1/6 A 4K7 PM5 A
3814	212210102205	RST CRB CF1/6 A 22K PM5 A
3815	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3816	213810113108	RST CRB CFR-12 A 1R PM5 A
3817	212210102181	RST CRB CF1/6 A 100R PM5 A
3818	213811273101	RST CRB CFR-25 A 100R PM5 A
3819	212210101448	RST CRB CF1/4 A 470R PM5 A
3820	231291511003	RST MFLM MBB0207 A 10K PM1 A
3823	213810113473	RST CRB CFR-12 A 47K PM5 A
3824	213810113822	RST CRB CFR-12 A 8K2 PM5 A

3825	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3826	213810113822	RST CRB CFR-12 A 8K2 PM5 A
3827	212211600392	RST MFLM MF0207 A 270K PM1 A
3828	212211600352	RST MFLM MF0207 A 5K1 PM1 A
3830	212210102181	RST CRB CF1/6 A 100R PM5 A
3831	213810113153	RST CRB CFR-12 A 15K PM5 A
3832	213810113471	RST CRB CFR-12 A 470R PM5 A
3833	213810113471	RST CRB CFR-12 A 470R PM5 A
3836	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3839	231291513304	RST MFLM MBB0207 A 330K PM1 A
3840	212211000419	RST MFLM MF1/2WS A 240K PM1 A
3841	212211000372	RST MFLM MF1/2WS A 3K9 PM1 A
3842	213810100369	RST JUMP CR-12 A MAX 0R01 A
3843	213810100369	RST JUMP CR-12 A MAX 0R01 A
3844	212210102207	RST CRB CF1/6 A 33K PM5 A
3845	212210102207	RST CRB CF1/6 A 33K PM5 A
3846	212210102201	RST CRB CF1/6 A 10K PM5 A
3847	213810113153	RST CRB CFR-12 A 15K PM5 A
3850	212210102197	RST CRB CF1/6 A 4K7 PM5 A
3851	212210102197	RST CRB CF1/6 A 4K7 PM5 A
3852	212210102197	RST CRB CF1/6 A 4K7 PM5 A
3853	212210102181	RST CRB CF1/6 A 100R PM5 A
3854	212210102205	RST CRB CF1/6 A 22K PM5 A
5101	313812871291	LINE FILTER
5102	243853598058	IND FXD BEAD EMI 100MHZ 80R A
5151	242253600036	IND FXD TSL0808 S 100U PM10 A
5152	242253600036	IND FXD TSL0808 S 100U PM10 A
5153	242253600036	IND FXD TSL0808 S 100U PM10 A
5154	242253600036	IND FXD TSL0808 S 100U PM10 A
5401	313816872631	BEAD COIL
5601	313817874741	DRIVER TRANSFORMER UU-15
5602	313816872631	BEAD COIL
5603	313816872631	BEAD COIL
5604	313816872631	BEAD COIL
5605	313816872631	BEAD COIL
5606	242253600037	IND FXD TSL0808 S 3700U PM5 A
5609	313819873011	COI LINCOR 3.8UH HL25EI-001
5610	823827446301	LOT
5611	313818871121	DRUM CHOKE
5612	313818876481	COI CHOKE130UH 173mOHM DR14X15
5671	313818875111	TFM POW DAF SRW19ES-T36V005
5156	313818876761	TFM SMT LAYER HJC-S2356WIRE
5007	313818876422	COIL CORNER TDC304 A
6101	932205814682	BRIDGE GBU4K (VISH) Y
6102	933497950673	DIO REC RGP10J A (VISH) A
6103	933751660673	DIO REC RGP10D A (VISH) A
6105	933189210133	DIO SIG BAV21 A (PHSE) A
6106	933083990133	DIO SIG 1N4148 A (PHSE) A
6107	933083990133	DIO SIG 1N4148 A (PHSE) A
6109	933117850133	DIO REG BZX79-C18
6109	933675520673	DIO REG BZX55-C18
6151	932221086673	DIO REC BYV26EGP A (GULF) A
6152	933497950673	DIO REC RGP10J A (VISH) A
6153	932218462673	DIO REC BYT54J A (VISH) A
6154	933957760673	DIO REC SB140 A (VISH) A
6155	932210346673	DIO REC SBYV27-200 A (VISH) A
6156	933751660673	DIO REC RGP10D A (VISH) A
6157	933712900673	DIO REG BZX55-C8V2 A (VISH) A
6158	933751660673	DIO REC RGP10D A (VISH) A
6159	933083990133	DIO SIG 1N4148 A (PHSE) A
6160	933083990133	DIO SIG 1N4148 A (PHSE) A
6161	933166840133	DIO REG BZX79-B7V5 A (PHSE) A
6162	933189210133	DIO SIG BAV21 A (PHSE) A
6251	933497950673	DIO REC RGP10J A (VISH) A
6252	933497950673	DIO REC RGP10J A (VISH) A
6401	932210346673	DIO REC SBYV27-200 A (VISH) A
6502	933828420673	DIO REG BZX55-C2V4 A (VISH) A
6507	933189210133	DIO SIG BAV21 A (PHSE) A
6601	933083990133	DIO SIG 1N4148 A (PHSE) A
6602	932210346673	DIO REC SBYV27-200 A (VISH) A
6603	933957760673	DIO REC SB140 A (VISH) A
6604	933083990133	DIO SIG 1N4148 A (PHSE) A
6606	933189210133	DIO SIG BAV21 A (PHSE) A
6607	933189210133	DIO SIG BAV21 A (PHSE) A
6608	933189210133	DIO SIG BAV21 A (PHSE) A
6609	933416590673	DIO REG BZX55-C5V6 A (VISH) A
6610	933083990133	DIO SIG 1N4148 A (PHSE) A
6611	933117830133	DIO REG BZX79-C15 A (PHSE) A
6612	933497950673	DIO REC RGP10J A (VISH) A
6613	932213642673	DIO REC BYT42G A (VISH) A
6615	933189210133	DIO SIG BAV21 A (PHSE) A
6801	933957760673	DIO REC SB140 A (VISH) A
6802	933166820133	DIO REG BZX79 B5V6 A (PHSE) A
6803	933166820133	DIO REG BZX79 B5V6 A (PHSE) A
6804	933166820133	DIO REG BZX79 B5V6 A (PHSE) A
6806	933166820133	DIO REG BZX79 B5V6 A (PHSE) A
6614	932205787673	DIO REC EGP20G A (VISH) A
6605	932216961687	DIO REC DMV1500M (ST00) L
7102	935267356112	IC TEA1507P/N1 (PHSE) L
7103	933179600126	TRA SIG BC337-40 (PHSE) A
7105	932214014667	OPT CP TCET1103(G) (VISH) L
7151	933259240126	TRA SIG BC368 (PHSE) A
7152	933829190126	THYRIS BT169D (PHSE) A
7153	933520290682	IC L7805CV (ST00) L
7154	933237790126	TRA SIG BC547C (PHSE) A
7155	932208697676	IC TL431ACZ S (ST00) A
7252	933237790126	TRA SIG BC547C (PHSE) A
7253	933237790126	TRA SIG BC547C (PHSE) A
7262	932212802687	FET POW IRF540 (ST00) L
7263	932212802687	FET POW IRF540 (ST00) L
7402	933237790126	TRA SIG BC547C (PHSE) A
7403	932214474676	TRA SIG BC517 (KEC0) A
7404	933567120126	TRA SIG BC516 (PHSE) A
7502	933878830676	TRA SIG BF423 (TOSJ) A
7601	934003960126	FET SIG BSN254A (PHSE) A
7602	933237790126	TRA SIG BC547C (PHSE) A
7606	933179600126	TRA SIG BC337-40 (PHSE) A
7613	933179600126	TRA SIG BC337-40 (PHSE) A
7614	933953410676	TRA SIG TBC328-40 (TOSJ) A
7616	934025870126	TRA SIG MPSA44 (PHSE) A
7617	932220668676	TRA SIG KTH2369A (KEC0) A
7618	932220668676	TRA SIG KTH2369A (KEC0) A
7802	932218650682	IC AT24C16A-10PI-2.7 (ATME) L
7803	933237790126	TRA SIG BC547C (PHSE) A
7804	313817869501	OTP ASSY
7804	823827446261	CPU, IC SAA4849PS/V1
7101	932217997687	FET POW SSP7N60B (FSC0) L
7604	931101054687	TRA POW TIP122 (ST00) L
7605	934040790127	TRA POW BU4522AF (PHSE) L
7615	932218832687	FET POW FQP6P25 (FSC0) L
7401	935263755112	IC TDA4863AJ/V1 (PHSE) L
1052	313817868501	VB-1 ASSY(LG,ORI,CPT)
2301	202202000906	ELCAP SM 16V S 47U PM20 A
2325	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2326	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2327	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2331	202203100266	ELCAP PF 16V S 47U PM20 A
2333	222236585103	CAP MPOL 100V S 10N PM10 A
2334	203803513201	ELCAP RGA 16V S 100U PM20 A
2336	203803527301	ELCAP KM 25V S 22U PM20 A
2340	203803513201	ELCAP RGA 16V S 100U PM20 A
2345	202203100147	ELCAP KM 50V S 2U2 PM20 A
2701	225250508205	CER1 DC NP0 50V S 22P PM5 A
2702	225250508205	CER1 DC NP0 50V S 22P PM5 A
2703	225250508205	CER1 DC NP0 50V S 22P PM5 A
2704	202203100266	ELCAP PF 16V S 47U PM20 A
2705	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2706	202203100153	ELCAP KM 100V S 1U PM20 A
2707	202202000956	ELCAP SM 100V S 10U PM20 A
2708	202203100153	ELCAP KM 100V S 1U PM20 A
2711	202203600002	ELCAP BP NK 50V S 1U PM20 A
2712	202203100153	ELCAP KM 100V S 1U PM20 A
2713	202203100153	ELCAP KM 100V S 1U PM20 A
2714	202203100153	ELCAP KM 100V S 1U PM20 A
2715	202203600002	ELCAP BP NK 50V S 1U PM20 A
2718	202203600002	ELCAP BP NK 50V S 1U PM20 A
2719	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2720	225279508453	CER2 DC Y5V 50V S 100N P8020 A
2721	225232626104	CER2 ML X7R 100V S 100N PM10 A
2722	242254945382	SURGE PROTECT SGP-201M-DRF A
2723	242254945382	SURGE PROTECT SGP-201M-DRF A
2724	242254945382	SURGE PROTECT SGP-201M-DRF A
2725	225261808411	CER2 DC Y5P 500V S 470P PM10 A
2727	202055890649	CER2 DC B 2KV S 2N2 PM10 B
3301	213810113759	RST CRB CFR-12 A 75R PM5 A
3302	213810113759	RST CRB CFR-12 A 75R PM5 A
3304	213810113759	RST CRB CFR-12 A 75R PM5 A
3305	213810113759	RST CRB CFR-12 A 75R PM5 A
3306	213810113759	RST CRB CFR-12 A 75R PM5 A
3307	212210102181	RST CRB CF1/6 A 100R PM5 A
3308	212211600338	RST MFLM MF0207 A 1K5 PM1 A
3303	213810113759	RST CRB CFR-12 A 75R PM5 A
3313	212210102178	RST CRB CF1/6 A 47R PM5 A
3314	212210102178	RST CRB CF1/6 A 47R PM5 A
3315	212210102178	RST CRB CF1/6 A 47R PM5 A
3330	213810113153	RST CRB CFR-12 A 15K PM5 A
3331	213810100369	RST JUMP CR-12 A MAX 0R01 A
3332	212210102198	RST CRB CF1/6 A 5K6 PM5 A
3333	213810113394	RST CRB CFR-12 A 390K PM5 A
3334	212210102201	RST CRB CF1/6 A 10K PM5 A
3335	212210102181	RST CRB CF1/6 A 100R PM5 A
3336	213810113221	RST CRB CFR-12 A 220R PM5 A
3337	212210102178	RST CRB CF1/6 A 47R PM5 A
3340	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3341	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3342	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3345	212210102181	RST CRB CF1/6 A 100R PM5 A
3351	212210102201	RST CRB CF1/6 A 10K PM5 A
3361	213811273277	RST CRB CFR-25 A 0R27 PM5 A
3701	213811273479	RST CRB CFR-25 A 47R PM5 A
3710	212210101491	RST CRB CF1/4 A 270K PM5 A
3711	212210102181	RST CRB CF1/6 A 100R PM5 A
3712	231291512201	RST MFLM MBB0207 A 220R PM1 A
3713	212210102181	RST CRB CF1/6 A 100R PM5 A
3714	231291512201	RST MFLM MBB0207 A 220R PM1 A
3715	212210102181	RST CRB CF1/6 A 100R PM5 A
3716	231291512201	RST MFLM MBB0207 A 220R PM1 A
3719	213810113153	RST CRB CFR-12 A 15K PM5 A
3720	212210101491	RST CRB CF1/4 A 270K PM5 A
3723	213810113153	RST CRB CFR-12 A 15K PM5 A
3727	213810113153	RST CRB CFR-12 A 15K PM5 A
3728	213810100368	RST JUMP 0R
3729	212010128153	RST CMP ERC12 A 15K PM10 A
3730	212210101491	RST CRB CF1/4 A 270K PM5 A
5301	313817871671	COIL 1MUH8 PM10
5311	243853598026	IND FXD BEAD EMI 100MHZ 35R R
5312	243853598026	IND FXD BEAD EMI 100MHZ 35R R
5313	243853598026	IND FXD BEAD EMI 100MHZ 35R R
5701	313817871671	COIL 1MUH8 PM10
5702	313817871671	COIL 1MUH8 PM10
5704	313816872631	BEAD COIL
5705	313816872631	BEAD COIL
5706	313816872631	BEAD COIL
5711	313817874201	COIL 0.68UH PM10
5712	313817874201	COIL 0.68UH PM10
5713	313817874201	COIL 0.68UH PM10
5721	243853598058	IND FXD BEAD EMI 100MHZ 80R A
6334	933189210133	DIO SIG BAV21 A (PHSE) A
6335	933189210133	DIO SIG BAV21 A (PHSE) A
6336	933189210133	DIO SIG BAV21 A (PHSE) A
6361	933751660673	DIO REC RGP10D A (VISH) A
6712	933189210133	DIO SIG BAV21 A (PHSE) A
6713	933189210133	DIO SIG BAV21 A (PHSE) A
6714	933189210133	DIO SIG BAV21 A (PHSE) A
6721	933189210133	DIO SIG BAV21 A (PHSE) A
6722	933189210133	DIO SIG BAV21 A (PHSE) A
6723	933189210133	DIO SIG BAV21 A (PHSE) A
6726	933751660673	DIO REC RGP10D A (VISH) A
7331	932220655682	IC NT6812K-20028 (NOVA) L
7702	932216674682	IC LM2480NA (NSC0) L
7701	823827446051	VIDEO POST-AMPLIFIER

Control ASSY

1053	313817869431	C/B ASSY
1891	242212803007	SWI TACT 1P 1POS 12V V 5MM B
1892	242212803007	SWI TACT 1P 1POS 12V V 5MM B
1893	242212803007	SWI TACT 1P 1POS 12V V 5MM B
1895	242212803007	SWI TACT 1P 1POS 12V V 5MM B
3891	212211000385	RST MFLM MF1/2WS A 12K PM1 A
3892	231291511803	RST MFLM MBB0207 A 18K PM1 A
3893	212211000401	RST MFLM MF1/2WS A 47K PM1 A
6891	932218424682	LED VS L-34GD (KIEL) B
8899	313818877831	CBLE330933 4P/300/4P H11002

Diversity of 107E61/00(CRT PHL 12NC:930190324323)
Comparing with 107E61/00(CRT LGPD 12NC:930195730323)

0057	313810440571	HOUSING COVER
1050	930190324323	CRT M41EHN323X160/G372LF (LGPD
1051	313817868471	MB-3 ASSY(PHL)
0213	313811580331	LABEL-EEPROM(PHL)
3634	212020200038	RST FUSE RFS1W S 560R PM5 A
3663	212211000412	RST MFLM MF1/2WS A 120K PM1 A
3407	212211600293	RST MFLM MF0207 A 2R PM1 A
3408	212211600294	RST MFLM MF0207 A 2R2 PM1 A
3502	212210101482	RST CRB CF1/4 A 68K PM5 A
3607	212010592399	RST MOX 3W RSS S 1R5 PM5 B

Spare Parts List

3617 213810500402RST MOX 2W RSS S 390R PM5 B
3630 212211600306RST MFLM MF0207 A 22R PM1 A
2611 222236585103CAP MPOL 100V S 10N PM10 A
2633 225260214316CER2 DC X7R 2KV S 330P PM10 A
2252 203830100304CAP MPP MPS 250V S 560N PM5 B
2257 203830100224CAP MPP MPS 250V S 220N PM5 B
1052 313817868851VB-2 ASSY (PHL-107E6)
8751 313818876242CBLE FAST/50/CLIP BRAID
Diversity of 107E61/00(CRT ORI 12NC:823827444381)
Comparing with 107E61/00(CRT LGPD 12NC:930195730323)
1050 823827444381CRT M41KXU100XX084(SNP)
1051 313817868461MB-2 ASSY(ORI)
2255 203830100426CAP MPP MPSA 400V S 300N PM5 B
2257 203830100225CAP MPP MPS 250V S 270N PM5 B
2611 222236585103CAP MPOL 100V S 10N PM10 A
0022 313810462861TRAY
0076 313810133931METAL BRACKET
0213 313811580321LABEL-EEPROM(ORI)
0220 313800991561PROCESS BOX
1101 313817878623AC-INLET ASSY
1105 243802500208CON V 2P M 7.92 VH B
1109 242212700556SWI SLID 1P 3POS 12V V 9MM2 B
1252 313817867141POWER T/R ASSY
0361 313810133962HEAT SINK-POWER
0362 313810133991CLIP-S
0363 313810321731INSULATING PLATE (16X31)
1253 313817868511HOR. T/R ASSY
0351 313810340032INSULATION PLATE
0352 313810321731INSULATING PLATE (16X31)
0353 313810133424HEAT SINK-HOR
1254 313817868061VER. IC ASSY (7401)
0371 313810321731INSULATING PLATE (16X31)
0372 313810133954HEAT SINK-VERT
0373 313810134261CLIP-S
1401 243803100116CON V 3P M 2.50 63172 B
1603 243802500085CON V 1P M 63931 B
1803 243803100063CON V 4P M 2.50 625/635 B
1804 242254301455RES XTL 48MHZ 20P AT-49 B
2633 225260214316CER2 DC X7R 2KV S 330P PM10 A
3407 212211600294RST MFLM MF0207 A 2R2 PM1 A
3408 212211600294RST MFLM MF0207 A 2R2 PM1 A
3502 213811273623RST CRB CFR-25 A 62K PM5 A
3607 212010592399RST MOX 3W RSS S 1R5 PM5 B
3617 213810500402RST MOX 2W RSS S 390R PM5 B
3634 212020200037RST FUSE RFS1W S 470R PM5 A
0250 313800990501PROCESS BOX
1301 313818877252CON BN V 6P M 2.5
1303 243802500085CON V 1P M 63931 B
1711 243803100312SOC CRT V 9P F 9P DAF B
1751 313817868071VIDEO IC ASSY (7701)
0381 313810168441HEAT SINK-VIDEO
0280 313800990141PROCESS BOX
0041 313810459422FRONT CABINET
0052 313810451961NAME PLATE
0113 313810166552PLATE-CRT
0116 253819700002SCR HI-LO
0178 313810541101QUICK SETUP GUIDE-8L
0153 313810658051P.E.BAG/ E-D.F.U.
0602 313811707242E-D.F.U
Diversity of 107E61/00(CRT CPT 12NC:932217270682)
Comparing with 107E61/00(CRT LGPD 12NC:930195730323)
0057 313810440571HOUSING COVER
1050 932217270682CRT M41AGE83X46C(PLD) (CPT0) B
1051 313817868481MB-4 ASSY(CPT)
3617 213810500402RST MOX 2W RSS S 390R PM5 B
3630 212211000317RST MFLM MF1/2WS A 15R PM1 A
3634 212020200038RST FUSE RFS1W S 560R PM5 A
3407 212211600294RST MFLM MF0207 A 2R2 PM1 A
3408 212211600294RST MFLM MF0207 A 2R2 PM1 A
3502 213811273623RST CRB CFR-25 A 62K PM5 A
0213 313811580341LABEL-EEPROM(CPT)
2257 203830100225CAP MPP MPS 250V S 270N PM5 B
2611 222236585103CAP MPOL 100V S 10N PM10 A
2637 225271214216CERHDT F-Y5R 2KV S 220P PM10 A

Recommended Parts List

model: 107E661/00

0001	313812755031	FRONT CABINET ASSY
0003	313812753212	PEDESTAL ASSY
0004	313812753231	CHIN ASSY
0041	313810459422	FRONT CABINET
0042	313810459462	BACK COVER
0044	313810459492	BASE
0045	313810459431	CHIN
0048	313810459471	LENS
0049	313810459451	FUNCTION BUTTON
0052	313810451961	NAME PLATE
0053	313810459482	SWIVEL
0060	313810449481	FOOT RUBBER
0057	313810440571	HOUSING COVER
0454	313810656581	PE BAG
0452	313810662871	CUSHION - TOP
0450	313810663471	CARTON
0451	313810662861	CUSHION - TOP
6101	932205814682	BRIDGE GBU4K (VISH) Y
6102	933497950673	DIO REC RGP10J A (VISH) A
6103	933751660673	DIO REC RGP10D A (VISH) A
6105	933189210133	DIO SIG BAV21 A (PHSE) A
6106	933083990133	DIO SIG 1N4148 A (PHSE) A
6107	933083990133	DIO SIG 1N4148 A (PHSE) A
6151	932221086673	DIO REC BYV26EGP A (GULF) A
6152	933497950673	DIO REC RGP10J A (VISH) A
6153	932218462673	DIO REC BYT54J A (VISH) A
6154	933957760673	DIO REC SB140 A (VISH) A
6155	932210346673	DIO REC SBYV27-200 A (VISH) A
6156	933751660673	DIO REC RGP10D A (VISH) A
6157	933712900673	DIO REG BZX55-C8V2 A (VISH) A
6158	933751660673	DIO REC RGP10D A (VISH) A
6159	933083990133	DIO SIG 1N4148 A (PHSE) A
6160	933083990133	DIO SIG 1N4148 A (PHSE) A
6161	933166840133	DIO REG BZX79-B7V5 A (PHSE) A
6162	933189210133	DIO SIG BAV21 A (PHSE) A
6251	933497950673	DIO REC RGP10J A (VISH) A
6252	933497950673	DIO REC RGP10J A (VISH) A
6401	932210346673	DIO REC SBYV27-200 A (VISH) A
6502	933828420673	DIO REG BZX55-C2V4 A (VISH) A
6507	933189210133	DIO SIG BAV21 A (PHSE) A
6601	933083990133	DIO SIG 1N4148 A (PHSE) A
6602	932210346673	DIO REC SBYV27-200 A (VISH) A
6603	933957760673	DIO REC SB140 A (VISH) A
6604	933083990133	DIO SIG 1N4148 A (PHSE) A
6606	933189210133	DIO SIG BAV21 A (PHSE) A
6607	933189210133	DIO SIG BAV21 A (PHSE) A
6608	933189210133	DIO SIG BAV21 A (PHSE) A
6609	933416590673	DIO REG BZX55-C5V6 A (VISH) A
6610	933083990133	DIO SIG 1N4148 A (PHSE) A
6611	933117830133	DIO REG BZX79-C15 A (PHSE) A
6612	933497950673	DIO REC RGP10J A (VISH) A
6613	932213642673	DIO REC BYT42G A (VISH) A
6614	932205787673	DIO REC EGP20G A (VISH) A
6615	933189210133	DIO SIG BAV21 A (PHSE) A
6801	933957760673	DIO REC SB140 A (VISH) A
6802	933166820133	DIO REG BZX79 B5V6 A (PHSE) A
6803	933166820133	DIO REG BZX79 B5V6 A (PHSE) A
6804	933166820133	DIO REG BZX79 B5V6 A (PHSE) A
6805	933166820133	DIO REG BZX79 B5V6 A (PHSE) A
6806	933166820133	DIO REG BZX79 B5V6 A (PHSE) A
6605	932216961687	DIO REC DMV1500M (ST00) L
6334	933189210133	DIO SIG BAV21 A (PHSE) A
6335	933189210133	DIO SIG BAV21 A (PHSE) A
6336	933189210133	DIO SIG BAV21 A (PHSE) A
6361	933751660673	DIO REC RGP10D A (VISH) A
6712	933189210133	DIO SIG BAV21 A (PHSE) A
6713	933189210133	DIO SIG BAV21 A (PHSE) A
6714	933189210133	DIO SIG BAV21 A (PHSE) A
6721	933189210133	DIO SIG BAV21 A (PHSE) A
6722	933189210133	DIO SIG BAV21 A (PHSE) A
6723	933189210133	DIO SIG BAV21 A (PHSE) A
6726	933751660673	DIO REC RGP10D A (VISH) A
7102	935267356112	IC TEA1507P/N1 (PHSE) L
7103	933179600126	TRA SIG BC337-40 (PHSE) A
7105	932214014667	OPT CP TCET1103(G) (VISH) L
7151	933259240126	TRA SIG BC368 (PHSE) A
7152	933829190126	THYRIS BT169D (PHSE) A
7153	933520290682	IC L7805CV (ST00) L
7154	933237790126	TRA SIG BC547C (PHSE) A
7155	932208697676	IC TL431ACZ S (ST00) A
7252	933237790126	TRA SIG BC547C (PHSE) A
7253	933237790126	TRA SIG BC547C (PHSE) A
7262	932212802687	FET POW IRF540 (ST00) L
7263	932212802687	FET POW IRF540 (ST00) L
7402	933237790126	TRA SIG BC547C (PHSE) A
7403	932214474676	TRA SIG BC517 (KEC0) A
7404	933567120126	TRA SIG BC516 (PHSE) A
7502	933878830676	TRA SIG BF423 (TOSJ) A
7601	934003960126	FET SIG BSN254A (PHSE) A
7602	933237790126	TRA SIG BC547C (PHSE) A
7606	933179600126	TRA SIG BC337-40 (PHSE) A
7613	933179600126	TRA SIG BC337-40 (PHSE) A
7614	933953410676	TRA SIG TBC328-40 (TOSJ) A
7616	934025870126	TRA SIG MPSA44 (PHSE) A
7617	932220668676	TRA SIG KTH2369A (KEC0) A
7618	932220668676	TRA SIG KTH2369A (KEC0) A
7802	932218650682	IC AT24C16A-10PI-2.7 (ATME) L
7803	933237790126	TRA SIG BC547C (PHSE) A
7804	313817869501	OTP ASSY
7804	823827446261	CPU, IC SAA4849PS/V1
7331	932220655682	IC NT6812K-20028 (NOVA) L
7702	932216674682	IC LM2480NA (NSC0) L
7701	823827446051	VIDEO POST-AMPLIFIER
7101	932217997687	FET POW SSP7N60B (FSC0) L
7604	931101054687	TRA POW TIP122 (ST00) L
7605	934040790127	TRA POW BU4522AF (PHSE) L
7615	932218832687	FET POW FQP6P25 (FSC0) L
7401	935263755112	IC TDA4863AJ/V1 (PHSE) L

Different Parts List

Diversity of 107E61/05 comparing with 107E61/00		
Item	12NC	Description
1056	313812872392	MAINSCORD (UK)
1052	313817868901	V/B-1 ASSY(LG,ORI,CPT)E6
1052	313817868911	V/B-2 ASSY(PHL)E6
1051	313817868881	MB-3 ASSY (PHL)E6
1051	313817868891	MB-4 ASSY (CPT)E6
1051	313817868861	MB-1 ASSY (LG)E6
1051	313817868871	MB-2 ASSY (ORI)E6

Diversity of 107E61/27 comparing with 107E61/00		
Item	12NC	Description
201	313811580481	RATING LABEL
1056	313812876251	MAINS CORD
1056	313811875011	MAINSCORD UL 10A 1M5 DET PDS
1052	313817868901	V/B-1 ASSY(LG,ORI,CPT)E6
1052	313817868911	V/B-2 ASSY(PHL)E6
1051	313817868881	MB-3 ASSY (PHL)E6
1051	313817868891	MB-4 ASSY (CPT)E6
1051	313817868861	MB-1 ASSY (LG)E6
1051	313817868871	MB-2 ASSY (ORI)E6
450	313810663502	CARTON

Diversity of 107E61/75 comparing with 107E61/00		
Item	12NC	Description
1056	313819872301	MAINS CORD AUS/NZ 7A5 1M5 GY
178	313810541092	QUICK SETUP GUIDE-4L
1052	313817868901	V/B-1 ASSY(LG,ORI,CPT)E6
1051	313817868891	MB-4 ASSY (CPT)E6
1051	313817868861	MB-1 ASSY (LG)E6
1050	823827444631	CRT M41AGE83X46 CRK(PLD)
1050	823827444471	CRT M41AGE83X46 CR(PLD)
1050	930195760323	CRT M41LFQ903X39(PA)SM(LGPD) B
1050	930195750323	CRT M41LFQ903X39(PA)S (LGPD) B

Diversity of 107E61/77 comparing with 107E61/00		
Item	12NC	Description
1056	313818879631	MAINSCORD IRAM 10A 1M53 GY
1052	313817868901	V/B-1 ASSY(LG,ORI,CPT)E6
1051	313817868891	MB-4 ASSY (CPT)E6
1051	313817868861	MB-1 ASSY (LG)E6
1050	823827444631	CRT M41AGE83X46 CRK(PLD)
1050	823827444471	CRT M41AGE83X46 CR(PLD)
1050	930195760323	CRT M41LFQ903X39(PA)SM(LGPD) B
1050	930195750323	CRT M41LFQ903X39(PA)S (LGPD) B
450	313810663502	CARTON

Diversity of 107E61/94 comparing with 107E61/00		
Item	12NC	Description
1056	242207000031	MAINSCORD IND 6A 1M53 DET 3P B
178	313810541092	QUICK SETUP GUIDE-4L
1052	313817868901	V/B-1 ASSY(LG,ORI,CPT)E6
1052	313817868911	V/B-2 ASSY(PHL)E6
1051	313817868881	MB-3 ASSY (PHL)E6
1051	313817868891	MB-4 ASSY (CPT)E6
1051	313817868861	MB-1 ASSY (LG)E6
1051	313817868871	MB-2 ASSY (ORI)E6
452	313810661811	CUSHION-BTM
451	313810661801	CUSHION-TOP
450	313810663422	CARTON

Diversity of 107E61/96 comparing with 107E61/00		
Item	12NC	Description
1056	313811876421	MAINSCORD UL 10A 1M5 DET TDS
178	313810541092	QUICK SETUP GUIDE-4L
1052	313817868901	V/B-1 ASSY(LG,ORI,CPT)E6
1052	313817868911	V/B-2 ASSY(PHL)E6
1051	313817868881	MB-3 ASSY (PHL)E6
1051	313817868891	MB-4 ASSY (CPT)E6
1051	313817868861	MB-1 ASSY (LG)E6
1051	313817868871	MB-2 ASSY (ORI)E6

Diversity of 107E66/00 comparing with 107E61/00		
Item	12NC	Description
201	313811580521	RATING LABEL
42	313810460251	BACK COVER
1056	313817875311	MAINSCORD IEC 10A 1M5 DET BK
1051	313817868951	MB-1 ASSY(LG) BLK
1051	313817868961	MB-2 ASSY(ORI) BLK
1051	313817868971	MB-3 ASSY(PHL) BLK
1051	313817868981	MB-4 ASSY(CPT) BLK
4	313812753541	CHIN ASSY
3	313812753552	PEDESTAL ASSY
1	313812754901	FRONT CABINET ASSY

Diversity of 107E66/27 comparing with 107E61/00		
Item	12NC	Description
201	313811580501	RATING LABEL
42	313810460251	BACK COVER
1056	313812874881	MAIN CORD
1052	313817868901	V/B-1 ASSY(LG,ORI,CPT)E6
1052	313817868911	V/B-2 ASSY(PHL)E6
1051	313817869001	MB -2 ASSY (ORI) 8-BLK
1051	313817869011	MB -3 ASSY (PHL) 8-BLK
1051	313817869021	MB -4 ASSY (CPT) 8-BLK
1051	313817868991	MB - 1 ASSY (LG) 8-BLK
450	313810663502	CARTON
4	313812753541	CHIN ASSY
3	313812753552	PEDESTAL ASSY
1	313812754901	FRONT CABINET ASSY

Diversity of 107E66/75 comparing with 107E61/00		
Item	12NC	Description
201	313811580521	RATING LABEL
42	313810460251	BACK COVER
1056	313819872291	MAINS CORD AUS/NZ 7A5 1M5 BK
178	313810541092	QUICK SETUP GUIDE-4L
1052	313817868901	V/B-1 ASSY(LG,ORI,CPT)E6
1051	313817869021	MB -4 ASSY (CPT) 8-BLK
1051	313817868991	MB - 1 ASSY (LG) 8-BLK
1050	823827444631	CRT M41AGE83X46 CRK(PLD)
1050	823827444471	CRT M41AGE83X46 CR(PLD)
1050	930195760323	CRT M41LFQ903X39(PA)SM(LGPD) B
1050	930195750323	CRT M41LFQ903X39(PA)S (LGPD) B
4	313812753541	CHIN ASSY
3	313812753552	PEDESTAL ASSY
1	313812754901	FRONT CABINET ASSY

Diversity of 107E66/94 comparing with 107E61/00		
Item	12NC	Description
201	313811580521	RATING LABEL
42	313810460251	BACK COVER
1056	242207000029	MAINSCORD IND 6A 1M53 DET 3P B
178	313810541092	QUICK SETUP GUIDE-4L
1052	313817868901	V/B-1 ASSY(LG,ORI,CPT)E6
1052	313817868911	V/B-2 ASSY(PHL)E6
1051	313817869001	MB -2 ASSY (ORI) 8-BLK
1051	313817869011	MB -3 ASSY (PHL) 8-BLK
1051	313817869021	MB -4 ASSY (CPT) 8-BLK
1051	313817868991	MB - 1 ASSY (LG) 8-BLK
452	313810661811	CUSHION-BTM
451	313810661801	CUSHION-TOP
450	313810663422	CARTON
4	313812753541	CHIN ASSY
3	313812753552	PEDESTAL ASSY
1	313812754901	FRONT CABINET ASSY

Diversity of 107E60/00 comparing with 107E61/00		
Item	12NC	Description
201	313811580511	RATING LABEL
42	313810460121	BACK COVER
5007	313818877781	COIL DEGAUS 62-0209-03 A
5007	313818877861	COIL DEGAUS TDC304 B
1051	313817868941	MB-3 ASSY (PHL-TCO)E6
1051	313817868931	MB-1 ASSY (LG-TCO)E6
1050	930190326323	CRT M41EHN323X160/P372LF (LGPD
1050	930190325323	CRT M41EHN323X160/P372BF (LGPD
1050	930198250323	CRT M41LFQ903X39(PU)M (LGPD) B
1050	930198240323	CRT M41LFQ903X39(PU) (LGPD) B
450	313810663412	CARTON
4	313812753471	CHIN ASSY
1	313812754911	FRONT CABINET ASSY

GENERAL PRODUCT SPECIFICATION

PHILIPS

V32 GS4 107E6 71KHz General Specification (Sheet 590)

FEATURES / BENEFITS

- EXTREMELY HIGH MTBF (OVER 75K HRS, EXCLUDING CRT)
- PROFESSIONAL LOOK, WITH NON-FLAMMABLE CABINET (94V-0)
- USER'S CONTROLS
  . FRONT MOUNTED CONTROLS FOR EASY ACCESS
- BETTER DISPLAY PERFORMANCE
  . FINER CRT DOT PITCH (0.27 MM)
  . FULL SCREEN SIZE APPLICATION
  . REAL MULTI-FREQ.
- POWER SAVING MANAGEMENT SYSTEM
- MAXIMIZED CONTAINER LOADING
- VESA DDC2B
- LOW EMISSION MPRII / TCO'03/TCO99 (Optional)

FEATURES / BENEFITS

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PHILIPS

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CLASS NO.

17" V32 GS4 107E6-71K CMTR
TYPE :107E61/00
BRAND : PHILIPS

8639 000 15582

2004-06-11

NAME P.S.SU | SUPERS. | 31 | 590 — 2 | 10 | A4

TY | CHECK | DATE 2004-06-11

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2838 100 05424

GENERAL PRODUCT SPECIFICATION

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PHILIPS

1.0 Introduction

This document is related to the 17" AUTOSCAN (VGA above and Max. resolution 1280X1024 by 60HZ refresh) color monitor for world-wide destination.

2.0 General description

The AUTOSCAN analog color monitor is specified as a display peripheral within an IBM PC, PS/2 ,VGA and advance VGA compatible system.

The AUTOSCAN analog color monitor is to operate at horizontal line rates between 30 to 71 KHz and refreshment rate between 50 to 160 Hz, can be applied to all

RGB analog computers within this scanning frequencies.

The AUTOSCAN analog color monitor is intended to be a finished product, basically a display device mounted inside a plastic enclosure which provides the aesthetic mechanical, ergonomic and safety requirements.

2.1 General condition

The unit will produce a usable image after switching-on, measurements are to be carried out with a full stabilized set after 30 minutes warm-up at room temperature of 25°C. Repetitive power on/off cycles are allowed though should be avoided within 4 sec.

3.0 Electrical characteristics

3.1 Signal interface

The AUTOSCAN analog color display has an analog video interface to operates at a multi-frequencies timing in several display modes.

3.1.1 Input requirements

A. Input signals

Video : Analog level
Sync. : Separate sync. with TTL level
Polarity : Positive or negative

B. Signal input level

Video : 0.7 Vp-p 75 ohms (for individual of R,G and B signals must not deviate 0.015 Vp-p from each other for balance of white pattern)
Sync : TTL level
(between 0 and 0.6 V to be considered as low level, between 2.3 and 5.0 V as high level)

C. Impedance

Video : Terminated with 75 ohms
Sync : Terminated with 4.7K ohms pull down resistors.

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3.1.2 Signals input

The input video signals are applied to the display device through a video cable which is fixed to the monitor (standard cable length 1. 5M).

Video input cable :
15 pin D-shell male connector type AMP 211350-1(3 rows) or equivalent, with pin assignment as follows :
Pin assignment of 15P D-SUB connector

Pin nbr.	Assignment
P1	Red video input
P2	Green video input
P3	Blue video input
P4	GND
P5	For selftest (PC Ground)
P6	Red video ground
P7	Green video ground
P8	Blue video ground
P9	DDC5V from PC
P10	Sync ground
P11	GND
P12	Bi-directional Data (SDA)
P13	H SYNC
P14	V SYNC (VCLK)
P15	Data clock (SCL)

3.1.3 Factory preset modes:

Factory preset modes : 8

	Resolution	H. freq.	V. freq.	H.	V.
1.	720 x 400	31.5 KHz	70Hz (VGA)	-	+
2.	640 x 480	31.47 KHz	60Hz (VGA)	-	-
3.	640 x 480	43.3 KHz	85Hz (VESA)	-	-
4.	800 x 600	46.9 KHz	75Hz (VESA)	+	+
5.	800 x 600	53.67 KHz	85Hz (VESA)	+	+
6.	1024 x 768	60.0 KHz	75Hz (VESA)	+	+
7.	1024 x 768	68.7 KHz	85Hz (VESA)	+	+
8.	1280 x 1024	64.0 KHz	60Hz (VESA)	+	+

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Factory preload modes : 14

	Resolution	H. freq.		V. freq.	
9.	640 x 350	31.5	KHz	70	Hz
10.	640 x 350	37.9	KHz	85	Hz
11.	640 x 480	37.5	KHz	75	Hz
12.	640 x 480	37.9	KHz	72.8	Hz
13	640 x 480	50.6	KHz	100	Hz
14.	720 x 400	37.9	KHz	85	Hz
15.	800 x 600	37.9	KHz	60	Hz
16.	800 x 600	48.1	KHz	72	Hz
17.	800 x 600	63.9	KHz	100	Hz
18.	832 x 624	49.7	KHz	75	Hz
19.	1024 x 768	48.4	KHz	60	Hz
20.	1024 x 768	56.5	KHz	70	Hz
21.	1152 x 864	67.5	KHz	75	Hz
22.	1280 x 960	60.0	KHz	60	Hz

3.2 Timing requirements

The AUTOSCAN color monitor must be capable of displaying standard resolutions within the vertical(refresh) frequency range of 50 to 160 Hz and horizontal scan range of 30 -71 KHz.

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TIMING FOR V32 GS4 107T6 71K COLOR MONITOR
REFERENCE PATTERN GENERATOR : CHROMA 2135
* According VESA version 1.0 release 0.6p
Factory preset modes

TABLE 1: 31.469 KHz/70.087 Hz, 720 X 400, pixel=28.325 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	31.774 us	Total size	=	14.268 ms
Display size	=	25.422 us	Display size	=	12.711 ms
Rear porch	=	1.907 us	Rear porch	=	1.112 ms
Sync width	=	3.813 us	Sync width	=	0.064 ms
Sync polarity	=	-	Sync polarity	=	+

TABLE 2: 31.469KHz/59.940 Hz, 640 X 480, pixel=25.175 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	31.778 us	Total size	=	16.683 ms
Display size	=	25.422 us	Display size	=	15.253 ms
Rear porch	=	1.907 us	Rear porch	=	1.049 ms
Sync width	=	3.813 us	Sync width	=	0.064 ms
Sync polarity	=	-	Sync polarity	=	-

TABLE 3: 43.269KHz/85.008 Hz, 640 X 480, pixel=36.000 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	23.111 us	Total size	=	11.764 ms
Display size	=	17.778 us	Display size	=	11.093 ms
Rear porch	=	2.222 us	Rear porch	=	0.578 ms
Sync width	=	1.556 us	Sync width	=	0.069 ms
Sync polarity	=	-	Sync polarity	=	-

TABLE 4: 46.875 KHz/75 Hz, 800 X 600, pixel=49.500 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	21.333 us	Total size	=	13.333 ms
Display size	=	16.162 us	Display size	=	12.800 ms
Rear porch	=	3.232 us	Rear porch	=	0.448 ms
Sync width	=	1.616 us	Sync width	=	0.064 ms
Sync polarity	=	+	Sync polarity	=	+

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TABLE 5: 53.674 KHz/85.061 Hz, 800 X 600, pixel=56.250 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	18.631 us	Total size	=	11.756 ms
Display size	=	14.222 us	Display size	=	11.179 ms
Rear porch	=	2.702 us	Rear porch	=	0.503 ms
Sync width	=	1.138 us	Sync width	=	0.056 ms
Sync polarity	=	+	Sync polarity	=	+

TABLE 6: 60.03 KHz/75 Hz, 1024 X 768, pixel=78.750 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	16.660 us	Total size	=	13.328 ms
Display size	=	13.003 us	Display size	=	12.795 ms
Rear porch	=	2.235 us	Rear porch	=	0.466 ms
Sync width	=	1.219 us	Sync width	=	0.050 ms
Sync polarity	=	+	Sync polarity	=	+

TABLE 7: 63.981 KHz/60 Hz, 1280 X 1024, pixel=108 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	15.630 us	Total size	=	16.661 ms
Display size	=	11.852 us	Display size	=	16.005 ms
Rear porch	=	2.296 us	Rear porch	=	0.594 ms
Sync width	=	1.037 us	Sync width	=	0.047 ms
Sync polarity	=	+	Sync polarity	=	+

TABLE 8: 68.677 KHz/85 Hz, 1024 X 768, pixel=94.500 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	14.561 us	Total size	=	11.765 ms
Display size	=	10.836 us	Display size	=	11.183 ms
Rear porch	=	2.201 us	Rear porch	=	0.524 ms
Sync width	=	1.016 us	Sync width	=	0.044 ms
Sync polarity	=	+	Sync polarity	=	+

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Factory preload modes

TABLE 9: 31.469KHz/70.087 Hz, 640 X 350, pixel=25.175MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	31.778 us	Total size	=	14.268 ms
Display size	=	25.422 us	Display size	=	11.122 ms
Rear porch	=	1.907 us	Rear porch	=	1.907 ms
Sync width	=	3.813 us	Sync width	=	0.064 ms
Sync polarity	=	+	Sync polarity	=	-

TABLE 10: 37.861KHz/85.08 Hz, 640 X 350, pixel=31.5MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	26.413 us	Total size	=	11.754 ms
Display size	=	20.317 us	Display size	=	9.244 ms
Rear porch	=	3.048 us	Rear porch	=	1.585 ms
Sync width	=	2.032 us	Sync width	=	0.079 ms
Sync polarity	=	+	Sync polarity	=	-

TABLE 11: 37.5KHz/75 Hz, 640 X 480, pixel=31.5MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	26.667 us	Total size	=	13.333 ms
Display size	=	20.317 us	Display size	=	12.8 ms
Rear porch	=	3.810 us	Rear porch	=	0.427 ms
Sync width	=	2.032 us	Sync width	=	0.08 ms
Sync polarity	=	-	Sync polarity	=	-

TABLE 12: 37.861KHz/72.809 Hz, 640 X 480, pixel=31.5MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	26.413 us	Total size	=	13.735 ms
Display size	=	20.317 us	Display size	=	12.678 ms
Rear porch	=	4.064 us	Rear porch	=	0.739 ms
Sync width	=	1.270 us	Sync width	=	0.079 ms
Sync polarity	=	-	Sync polarity	=	-

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TABLE 13: 50.625 KHz/100.049 Hz, 640 X 480, pixel=40.5MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	19.752 us	Total size	=	9.995 ms
Display size	=	15.802 us	Display size	=	9.481 ms
Rear porch	=	1.975 us	Rear porch	=	0.435 ms
Sync width	=	1.580 us	Sync width	=	0.059 ms
Sync. polarity	=	-	Sync. polarity	=	-

TABLE 14: 37.927 KHz/85.039 Hz, 720 X 400, pixel=35.5 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	26.366 us	Total size	=	11.759 ms
Display size	=	20.282 us	Display size	=	10.546 ms
Rear porch	=	3.042 us	Rear porch	=	1.107 ms
Sync width	=	2.028 us	Sync width	=	0.079 ms
Sync. polarity	=	-	Sync. polarity	=	+

TABLE 15: 37.879 KHz/60.317 Hz, 800 X 600, pixel=40MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	26.400 us	Total size	=	16.579 ms
Display size	=	20.000 us	Display size	=	15.840 ms
Rear porch	=	2.200 us	Rear porch	=	0.607 ms
Sync width	=	3.200 us	Sync width	=	0.106 ms
Sync. polarity	=	+	Sync. polarity	=	+

TABLE 16: 48.077 KHz/72.188 Hz, 800 X 600, pixel=50MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	20.800 us	Total size	=	13.853 ms
Display size	=	16.000 us	Display size	=	12.480 ms
Rear porch	=	1.280 us	Rear porch	=	0.478 ms
Sync width	=	2.400 us	Sync width	=	0.125 ms
Sync. polarity	=	+	Sync. polarity	=	+

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TABLE 17: 63.92KHz/100 Hz, 800 X 600, pixel=67.5MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	15.644 us	Total size	=	9.997 ms
Display size	=	11.852 us	Display size	=	9.387 ms
Rear porch	=	2.370 us	Rear porch	=	0.548 ms
Sync width	=	0.948 us	Sync width	=	0.047 ms
Sync. polarity	=	+	Sync. polarity	=	+

TABLE 18: 49.714KHz/74.534 Hz, 832 X 624, pixel=57.27MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	20.115 us	Total size	=	13.417 ms
Display size	=	14.528 us	Display size	=	12.552 ms
Rear porch	=	3.911 us	Rear porch	=	0.784 ms
Sync width	=	1.118 us	Sync width	=	0.060 ms
Sync. polarity	=	-	Sync. polarity	=	-

TABLE 19: 48.363 KHz/60.004 Hz, 1024 X 768, pixel=65MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	20.677 us	Total size	=	16.666 ms
Display size	=	15.754 us	Display size	=	15.880 ms
Rear porch	=	2.462 us	Rear porch	=	0.600 ms
Sync width	=	2.092 us	Sync width	=	0.124 ms
Sync. polarity	=	-	Sync. polarity	=	-

TABLE 20: 56.476KHz/70.069 Hz, 1024 X 768, pixel=75MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	17.707 us	Total size	=	14.272 ms
Display size	=	13.653 us	Display size	=	13.599 ms
Rear porch	=	1.920 us	Rear porch	=	0.513 ms
Sync width	=	1.813 us	Sync width	=	0.106 ms
Sync. polarity	=	-	Sync. polarity	=	-

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TABLE 21: 67.5 KHz/75Hz, 1152 X 864, pixel=108MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	14.815 us	Total size	=	13.333 ms
Display size	=	10.667 us	Display size	=	12.8 ms
Rear porch	=	2.370 us	Rear porch	=	0.474 ms
Sync width	=	1.185 us	Sync width	=	0.044 ms
Sync polarity	=	+	Sync polarity	=	+

TABLE 22: 60.0 KHz/60 Hz, 1280 X 960, pixel= 108MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	16,667 us	Total size	=	16.667 ms
Display size	=	11.852 us	Display size	=	16.000 ms
Rear porch	=	2.889 us	Rear porch	=	0.600 ms
Sync width	=	1.037 us	Sync width	=	0.050 ms
Sync polarity	=	+	Sync polarity	=	+

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3.2.1 Horizontal scanning
Scanning frequency : 30 - 71 KHz
H-shift range : ± 10 mm Min. (for preset modes only)
3.2.2 Vertical scanning
Scanning frequency : 50 - 160 Hz
V-shift range : ± 10 mm min. (for preset modes only)
3.3 Power supply
The display device maintains the specified performance in the range described as below :

Type	Mains current	Mains Voltage	Mains freq.
230V version	1.5A Max.	90 - 264 VAC	60+/3 Hz

Power consumption : 75 Watts Max.
Power cord length : 1.5M
Power cord type : 3 lead plug power cord with protective earth plug or IBM hooded

3.4 Power saving management system

	Signal			Compliance Requirement	Power
	H-Sync	V-Sync	Video		
On	Active	Active	Active	Mandatory	</=75w
Off	Inactive	Active	Blanked	Mandatory	</=1 w
Off	Active	Inactive	Blanked	Mandatory	</= 1 w
Off	Inactive	Inactive	Blanked	Mandatory	</=1 w

Remark: Transition time from "ON" to any power saving mode will have 5 seconds delay.

3.5 CRT Description
This display unit employs a high resolution CRT complying with the following specifications :
Dimensions : 17 inches flat/square screen
Pitch : 0.25mm dotted with black matrix
Deflection angle : 90 degrees
Light transmission : 56.1%(LG), 55%(HF), 50%(CPT), 55%(SDI)
Face treatment : AGARAS
Implosion protection : By P-Mini-rim-band.
EHT : 25.0 ± 1 KV (Ib=0)
Visible screen area : 325.1 mm x 243.8 mm
CRT Source : LG, HF, CPT, SDI

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3.6 RGB Amplifier

3.6.1 Video amplifiers

Dot Rate : 120 MHz
Over / undershoot : 15% Max. (Transient response)
Sag : 5% Max. (pulses of 0.70H)
Black level shift : 5% Max.

3.6.2 Brightness and Contrast

Reference mode 68.7 KHZ/85 HZ full white pattern.

DISPLAY LIGHT OUTPUT

Brightness	Contrast	Light output (full white)
Minimum	Minimum	not visible
Center	Maximum	30 ± 5 FL.

100mmx100mm block

Brightness at center and contrast at maximum light output is 41+/-6 FL.
sRGB : When sRGB mode is selected, the light output (Full white pattern) shall be 23 +/- 3FL regardless of main contrast and brightness controls. Adjusting contrast or brightness will auto exit sRGB mode and go to 6500K mode.

3.6.3 Raster light output

Apply 68.7KHz/85Hz mode with no video pattern, set brightness at center(50%) and contrast control at minimum(0%).
The light output on the screen center should be < 0.2FL.

3.7 Variation of image size (For preset modes only)

Due to brightness change : ≤ 1.0 %

Long term (Static) : <1.50mm on left/right side
(See Fig.7) <1.20mm on top/bottom side

Due to aging
(25° C, 300 hrs) : ≤ 1.0 %

Due to mains voltage
variation (± 10%) : ≤ 1.0 %

3.8 Degaussing

An automatic degaussing circuit is provided which requires no intervention. The degaussing shall be activated and work effectively at the time of switch-on or switch-on again or pressing the manual degaussing key after the degaussing circuit has been switched off for longer than 30 minutes (The PTC should be completely cooled off).

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3.9 Phosphor protection

The display device is sufficiently protected against the burning of phosphors in case of repetitive power cycling or absence of horizontal deflection.

3.10 Low emission requirements (MPRII/TCO' 03/TCO99)

Items	Band I ELF (rms)	Band II VLF (rms)
Alternating Electric Field	MPRII < 25 V/M TCO < 10 V/M	MPRII < 2.5 V/M TCO < 1.0 V/M
Magnetic Field	MPRII < 250 nT TCO< 200 nT	MPRII < 25 nT TCO < 25 nT
Electrostatic Potential	< ± 500 V	

Band I : 5 to 2K HZ.
Band II : 2K to 400K HZ.
Test procedure according to low emission and E.S.P. test method.

3.11 Display data channel : DDC2B (VESA STANDARD)

The DDC HEX Data (refer sheet 190) should be written into the DDC IC (24LC21 or equivalent)

4.0 Display image (CRT facing east)

The monitor is aligned in a magnetic cage having the following magnetic field components :
Northern Hemisphere : H = 0, V = 450 mG, Z = 0
Southern Hemisphere : H = 0, V = -500 mG, Z = 0
Equatorial : H = 0, V = 0 mG, Z = 0

Conditions for visual testing, unless otherwise stated:
Input video signal - 700 mVpp cross hatch
Brightness control - center(50%)
Contrast control - maximum(100%)

4.1 Display resolutions
See 3.1.3

4.2 Image size (For preset modes only)

The dimensions of guaranteed display area to be measured along the picture center of horizontal and vertical axis of the screen as listed below: (preset modes only, refer to fig. 1)
Width : 306 ± 3 mm

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Height : 230 ± 3 mm

4.3 Image centering deviation (For preset modes only)

With respect to fig. 2, the target relationships are the following :

|A- B| ≤ 5 mm |C- D| ≤ 5 mm

Note : This centering is adjustable by the end-user.

4.4 Picture shift control range (For preset modes only)

H-shift range : ± 10 mm min.

V-shift range : ± 10 mm min.

4.5 Picture tilt

With respect to Fig. 3, Tilt to be measured on extremes of center line from bezel

|A- B| : ≤ 2 mm

4.6 Geometrical distortions (For preset modes only)

It is acceptable that pincushion, trapezoid, rhomboid, rotation and various waves distortions must remain within the limits of tolerance as in Fig. 4,
where A = B = 2.0 mm.
C = D = 2.0 mm.
The waviness of any vertical or horizontal shall be less than 1.0 mm over a 50 mm distance.

4.7 Image non-linearity (For preset modes only)

Apply cross-hatch pattern with
12 equal blocks along horizontal axis,
9 equal blocks along vertical axis. (see Fig. 1)

Overall: ≤ 10 % (≤ 12 % for < 45KHz modes)
≤ 12 % (for preload modes)
Adjacent: ≤ 6 % (≤ 8 % for < 45KHz modes)
≤ 8 % (for preload modes)

$$\text{H. non-linearity} = \frac{Xmax. - Xmin}{(Xmax + Xmin)/2} \times 100\%$$

$$\text{V. non-linearity} = \frac{Ymax. - Ymin}{(Ymax + Ymin)/2} \times 100\%$$

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4.8 Mis-convergence

The maximum convergence error to be measured on a white spot or white display line to represents the maximum distance between the energy centers of any two primary colors (See Fig. 6). For 31.5kHz modes B Zone : 0.4mm.

CONVERGENCE SPEC.

Zones	0.25 mm CRT
Zone C	0.15 mm
Zone A	0.25 mm
Zone B	0.35 mm

4.9 Focus check (68.7 KHZ / 85 HZ)

Adjust brightness control to center(50%) and contrast control to get 25 FL at full white pattern, then generate "me' characters to cover the entire picture. The characters should be clearly identified in all display area. (See Fig. 8)

4.10 Luminance uniformity

condition : With full white pattern, set contrast control at maximum(100%) and brightness control at center(50%).
Brightness of the center of the display is 30 FL+/-5.
The Max. deviation over the screen should not exceed 25%

4.11 White color adjustment

Based on the 1931 CIE chromatic diagram (x,y) coordinates of white display on screen center should be:

For 9300° K X = 0.283 ± 0.015
Y = 0.297 ± 0.015
For 6500° K X = 0.313 ± 0.015
Y = 0.329 ± 0.015
For sRGB X = 0.313 ± 0.015
Y = 0.329 ± 0.015

Check conditions : Set brightness control at center(50%) and contrast at maximum(100%). For sRGB mode sRGB contrast is at Factory value.

4.12 Color tracking on full white pattern

Adjust for the luminance output from 3 to 30 FL by pressing the contrast control key (brightness control at 50%).
The color co-ordinates should not deviate more than the following tolerance when compare to display center:
X= X (center) ± 0.015
Y= Y (center) ± 0.015

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4.13 Purity

Test patterns : Full white / Red / Green / Blue.
Conditions : As stated in item 4.0, the purity must be checked under specific destinations of earth magnetic environments and the monitor must be well degaussed.

After warming-up time of 30 min., no color stains may occur in the above four patterns.

4.14 Moire'

Condition: Display a full white pattern. At any preset mode , the display size must be set as Fig.1.

The clouding effect must not rise to disturbing levels in anywhere of the screen with luminance setting from 15 to 30 FL.

4.15 Blemish

Blemish shall be in accordance with CRT specification.

5.0 Mechanical characteristics

5.1 User controls

- Power ON/OFF key
- ~~LightFrame key~~
- 3 Key digital user control (OSD)

5.2 Connectors and cables

5.2.1 Power cord type : 3 leads plugable power cord with protective earthed plug or IBM Hooded

Length : 1.5 m ± 50 mm (excluding connector)
Safety requirements : See following.

Countries	Approval		
	Mains plug	Wire	Connector
Germany	VDE	VDE	VDE
Switzerland	--	SVE	SVE
Belgium	CEBEC	--	--
Sweden	SEMKO	SEMKO	SEMKO
Finland	EI	--	EI
Norway	NEMKO	NEMKO	--
Denmark	DEMKO	DEMKO	DEMKO
Italy	OVE	--	OVE
Netherlands	KEMA	KEMA	KEMA
U.K.	ASTA	HAR	ASTA
U.S.A.	UL	UL	UL
Canada	CSA	CSA	CSA
Australia	SAA	SAA	SAA

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5.2.2 Signal cable

Length of video : 1.5 m ± 50 mm flying with 15 pin PS/2 D-shell socket

5.3 Tilt and swivel base

Tilt angle : 5° forward and 13° backward
Swivel rotation : 90° leftward or rightward

6.0 Environmental characteristics

The following sections to define the interference and susceptibility condition limits that might occur between external environment and the display device.

6.1 Susceptibility of display to external environment

6.1.1 (A) Operating limits

Temperature : 0°C to 40° C
Humidity : 10 to 90% (W/O condensation)
Air pressure : 700 ~ 1100 mbar

(B) Non-operating limits (storage)

Temperature : -25°C to 65°C
Humidity : 5 to 95 % (W/O condensation)
Altitude : 300 to 1100 mbar

6.1.2 Transportation packages

A) Carton box

A-1 Size (with pedestal)
496(W)×416(H)×526(D) : Normal packing for China, India
438(W)×412(H)×462(D) : small small packing for other regions

A-2 Carton paper : double wall AB flute corrugate board, color brown
Bursting : 19.3 kgf/cm^2 min
Compression : 600 kgf min

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B) Transportation conditions

B-1 Container loading (separated pedestal), normal packing for China, India

Q'ty	Container size				
	40'		20'		40'High Cube
	W/ Pallet		W/ Pallet		W/ Pallet
	Yes	No	Yes	No	No
Layers	5	5	5	5	6
Sets / Layer	4	4	4	4	4
Sets / Block	20	20	20	20	24
Blocks/Container(PA)	24	24	10	10	24
Total Sets	480	480	200	200	576

B-2 Container loading (separated pedestal), small small packing for other regions

Q'ty	Container size											
	40'			20'			40'High Cube			PWHC 45'		
	W/ Pallet		W/ SLIP SHEET	W/ Pallet		W/ SLIP SHEET	W/ Pallet		W/ SLIP SHEET	W/ Pallet		W/ SLIP SHEET
	Yes	No		Yes	No		Yes	No		Yes	No	
Layers	5	5	5	5	5	5	5	6	6		6	6
Sets / Layer(PA)	6	6	6	6	6	6	6	6	6		6	6
Sets / Layer(PB)	6	6	6	6	6	6	6	6	6		6	6
Sets / Block(PA)	30	30	30	30	30	30	30	36	36		36	36
Sets / Block(PB)	30	30	30	30	30	30	36	36	36		36	36
Blocks / Container(PA)	19	19	19	10	10	10	19	19	19		10	10
Blocks / Container(PB)	3	3	3	-	-	-	3	3	3		15	15
Total Sets	660	620	620	300	300	300	660	792	792		900	900

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GENERAL PRODUCT SPECIFICATION

B-3 Transportation standards
(Test conditions: ambient temperature 20 - 23°C, relative humidity 40 -65%)

Standards	PCE All Regions Except China & India PCE Standard		PCE China & India PCE Standard
Vibration test	Sequence	7Hz, 1.05G Amplitude(peak to peak): 10.6mm Duration: 30 min. 1 axes (transport direction)	a .10-30-10Hz. Amplitude: 19mm Sweep: 5, Duration: 15 min. 3 axes (Refer to GB9384-97) b. 30-55-10Hz. Amplitude: 6mm Sweep: 5, Duration: 9min 3 axes (Refer to GB9384-97)
	Result	Electrical function OK. - Mechanical function OK. - No serious damage in set	
Bump test	Parameter	No	Acceleration: 100m/s2, Pulse duration: 16ms, Number of pulses: 1000, Bump frequency:60-80 times/min. (Refer to GB9384-97)
	Result	- Electrical function OK. - Mechanical function OK. - No serious damage in set	
Drop test (cold drop test)	Height	43/25 cm (weight: 15kg)	60/50 cm (weight:10-19kg)
	Sequence	Bottom(3 times): 43cm, Left/Front/Right/Rear/Top: 25cm (cold drop test: when applicable, perform also the drop test with new packaging after pre-condition for 16 hours at -10° C)	5 face(bottom-front-left-rear-right) 3 edge(front-bot, right-bot, front-right) Corner : right-bottom-front 2x bottom : 70cm Face : 60 cm Edge/Corner: 50 cm (cold drop test: pre-condition for 16 hours at -10°C)
	Result	- Electrical function OK. - Mechanical function OK. - No serious damage in set	
Shock test	For design evaluation only. Half sine shock Temp. Humidity Air pressure Standard	: 100G, <3m sec. 6 shocks : 23°C : 60 % :100kpa : Mechanical Guideline	

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6.2 Display disturbances from external environment
6.2.1 ESD Disturbances
According to EN55024 (also refer to EN61000-4-2 for detail).
6.3 Display disturbances to external environment
The disturbances induced by the display and tolerated by the environment are defined as follows :
6.3.1 Ionizetic radiation
Completely fulfill International Commission of Radio logical Protection (ICRP) requirement 0.5 mR/Hr.
Actually the set can reach 0.1 mR/Hr.
6.3.2 EMI/EMS
Can comply with FCC part 15,DOC C108.8 and EN55022 B Emission.
EN55024 Immunity; EN61000-3-2 Current Harmonics; EN61000-3-3 Flicker.
EMS EN61000-4-3 (80% 1KHz AM modulation) Picture jitter ≤ 2mm.
7.0 Safety tests
7.1 Dielectric strength (Hi-pot test)
According to IEC 60950, UL 1950 and CSA 22.2 No. 950
7.2 Resistance for protective earthing
According to IEC 60950
7.3 Leakage current
According to IEC 60950, UL 1950 and CSA22.2 No. 950
7.4 Grounding
According to IEC 60950, UL 1950 and CSA22.2 No. 950

8.0 Certifications
8.1 Safety
The monitors comply with the following safety standards:
- IEC 60950
- UL 1950
- DHHS 21 CFR, subchapter J
- CSA-22.2 NO. 950
- EK1-ITB 2000

8.2 EMI (Electromagnetic Interference)
The monitor comply with the following EMI standards :

- EN55022 B Emission
- FCC Part 15
- DOC C108.8

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8.3 Fulfil approbation requirements

Destination basis, set can fulfil following requirements:

Countries	Safety	EMI
Germany	TUV, GS	CE
Sweden	SEMKO	----
Norway	NEMKO	----
Denmark	DEMKO	----
Finland	FIMKO	----
U.S.A.	UL, DHHS	FCC
Canada	CSA	DOC
Taiwan	----	BSM1

9.0 Reliability

9.1 Mean time between failures

MTBF to be calculated according to Military standard MIL-HDBK-217C.

MTBF ≥ 75,000 Hours (Excluding CRT)

$$\text{PRACTICE of MTBF} = \frac{\text{TOTAL HRS (POWER ON) X TOTAL SETS}}{\text{NBR. OF FAILURE SETS}}$$

10.0 Quality assurance requirements

10.1 Acceptance test

According to MIL-STD-105D level II,
AQL : 0.4 (Major)
: 1.0 (Minor)

Customer acceptance criteria : UAW 0377/40

11.0 Service ability

The service ability of this monitor should fulfil the requirements which are prescribed in UAW-0346 and must be checked with the check list UAT - 0361

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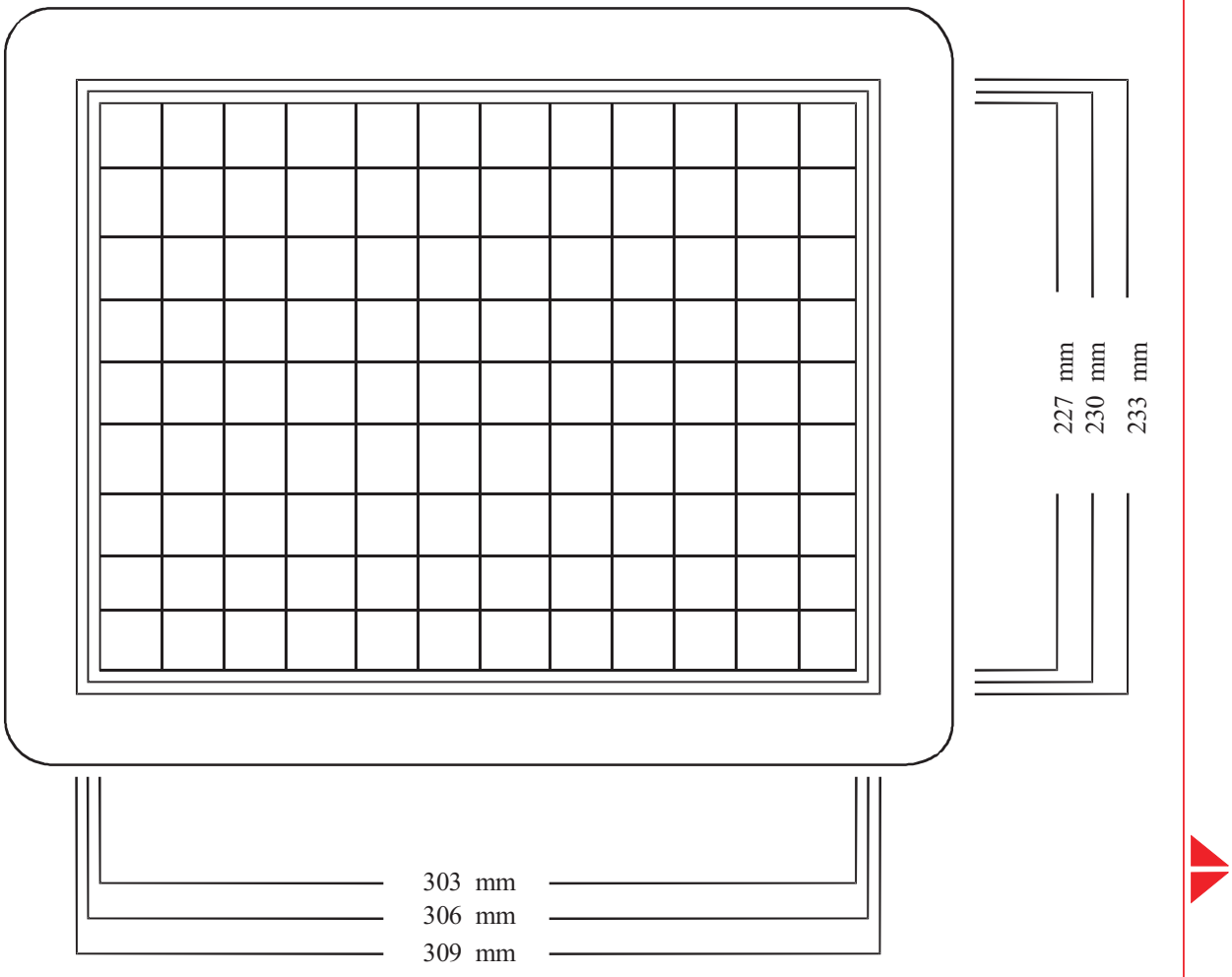

FIG-1 IMAGE DIMENSION

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CLASS NO.	17" V32 GS4 107E6-71K CMTR TYPE :107E61/00 BRAND : PHILIPS	8639 000 15582
2004-06-11		
NAME P.S.SU	SUPERS.	31
TY CHECK	DATE 2004-06-11	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.

590 — 24 10 A4

2838 100 05424

GENERAL PRODUCT SPECIFICATION

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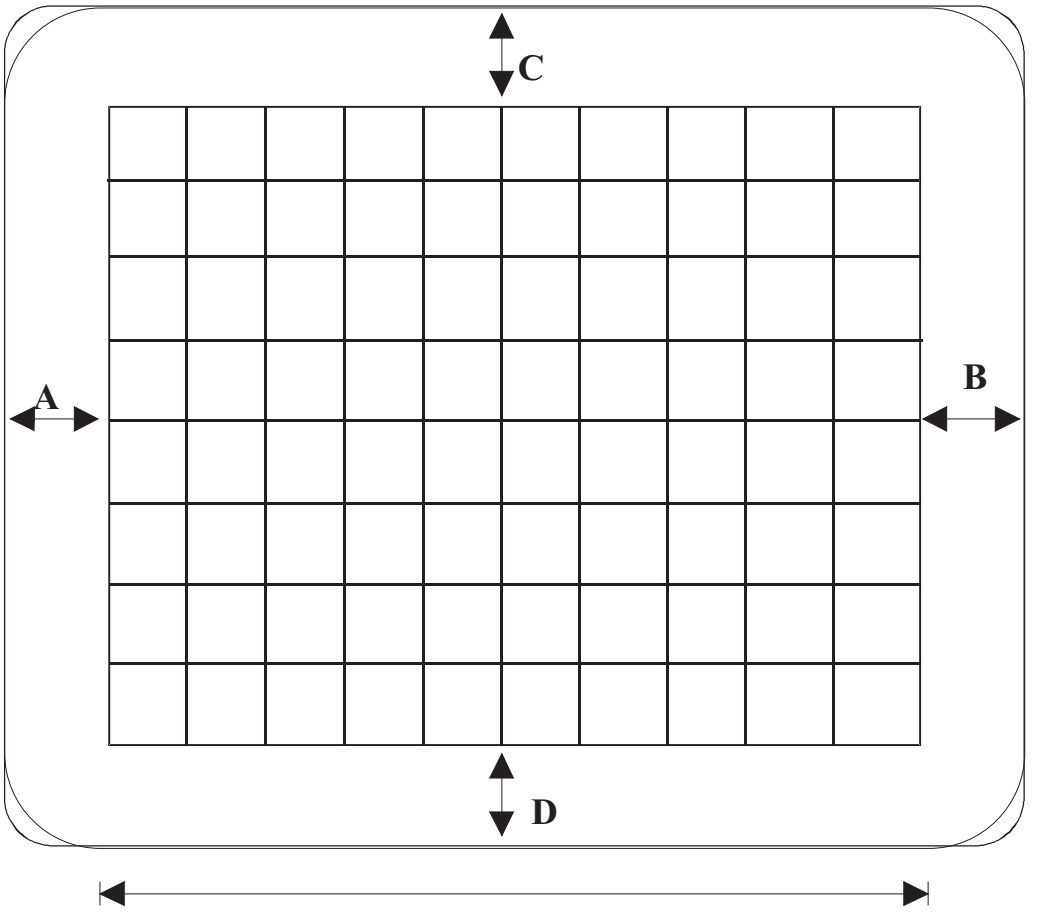

$|A-B|$ AND $|C-D| \leq 5$ mm

FIG-2 IMAGE CENTERING

CLASS NO.	17" V32 GS4 107E6-71K CMTR TYPE :107E61/00 BRAND : PHILIPS			8639 000 15582			
2004-06-11							
NAME P.S.SU	SUPERS.	31	590 — 25	10		A4	
TY CHECK	DATE 2004-06-11	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.					

2838 100 05424

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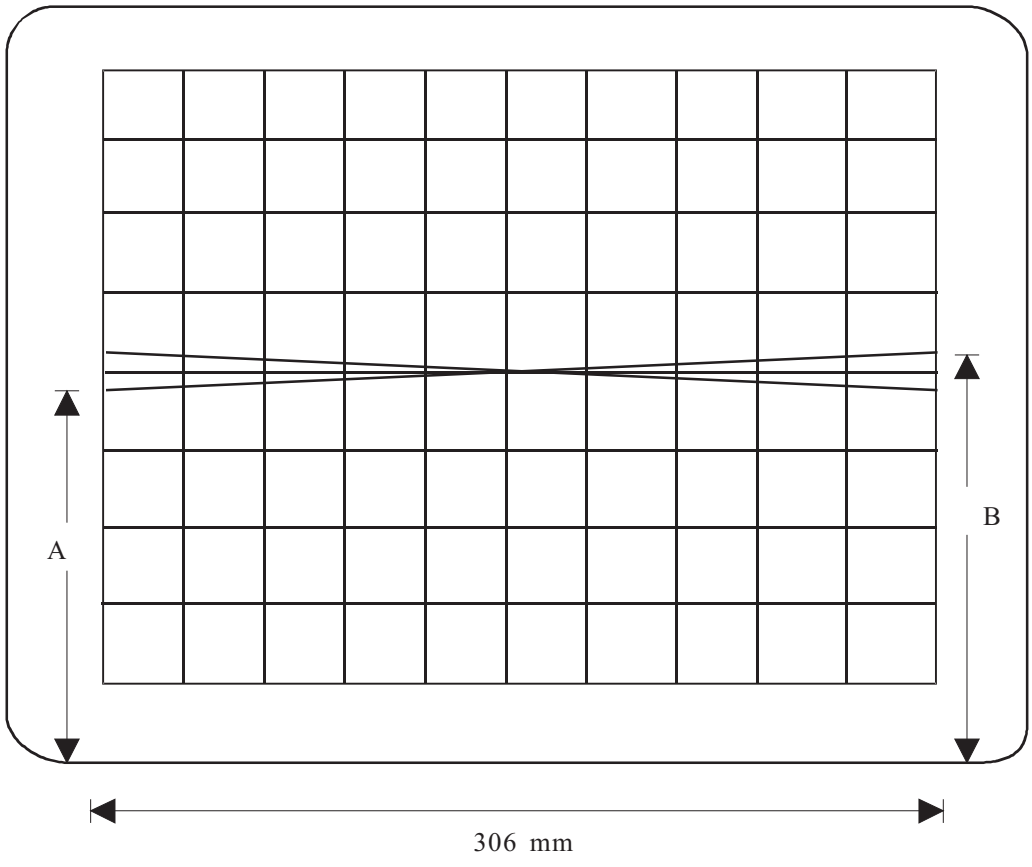
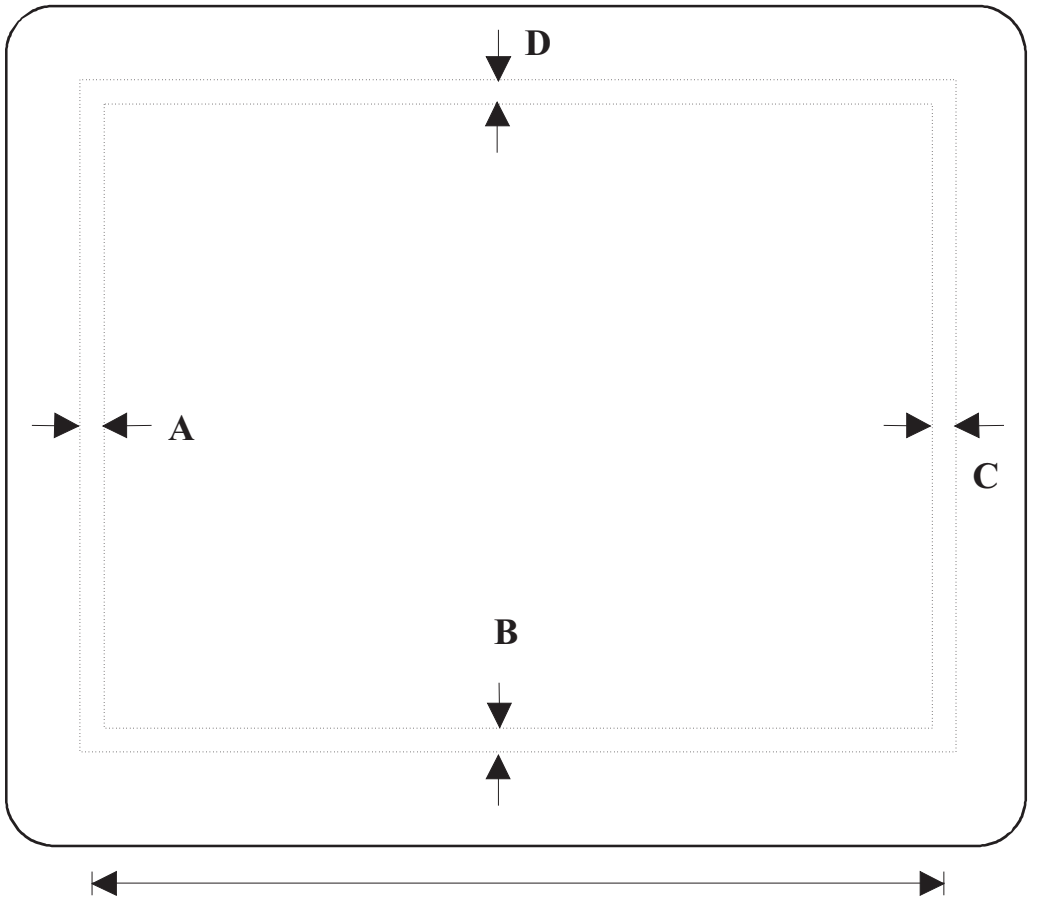


$$|A-B| \leq 2 \text{ mm}$$

FIG-3 IMAGE ROTATION

PHILIPS



A=B=C=D ≤ 2.0 mm

FIG-4 IMAGE GEOMETRY

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2004-06-11		
NAME P.S.SU	SUPERS.	31 590 — 27 10 A4
TY CHECK	DATE 2004-06-11	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.

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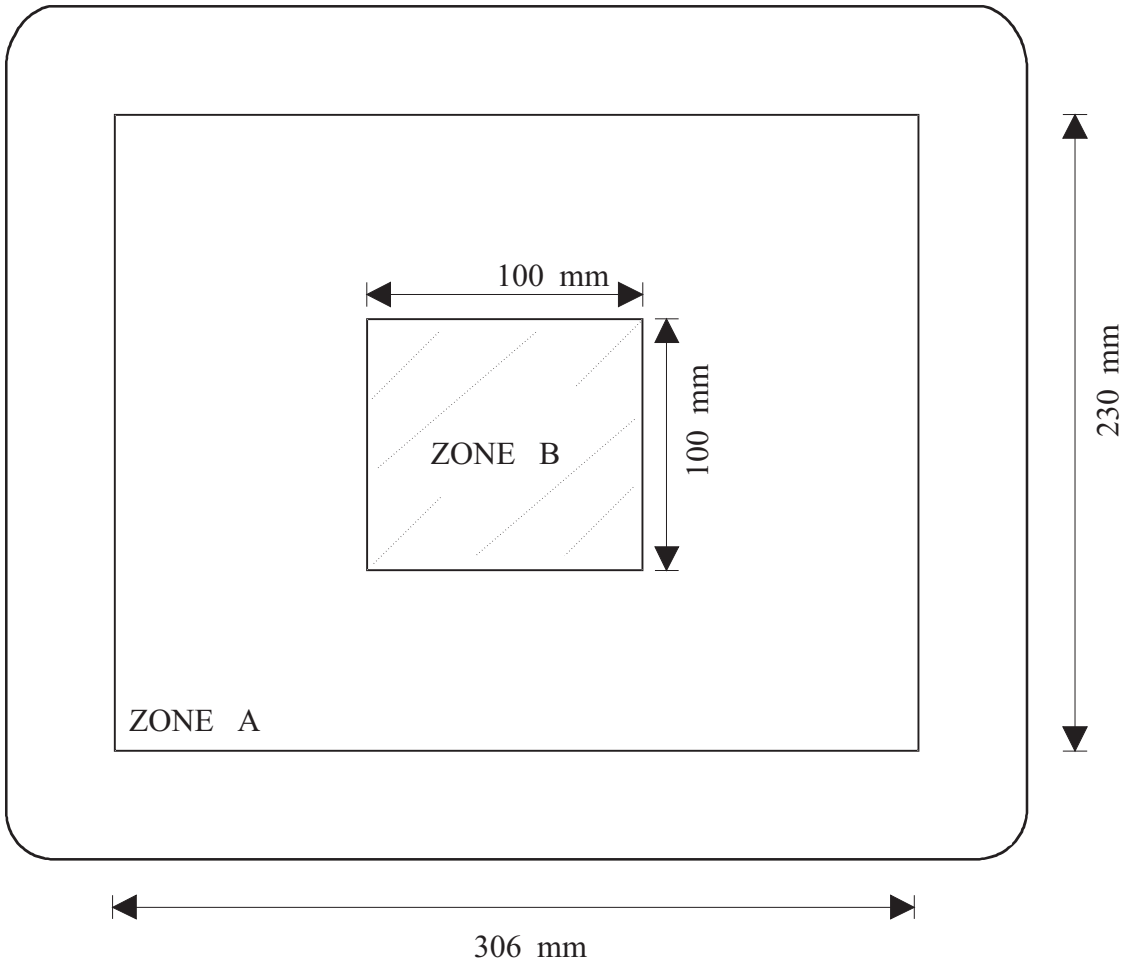

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FIG-5 CONTRAST AND BRIGHTNESS MEASUREMENT AREA

CLASS NO.	17" V32 GS4 107E6-71K CMTR TYPE :107E61/00 BRAND : PHILIPS		8639 000 15582		
2004-06-11					
NAME P.S.SU	SUPERS.	31	590 — 28	10	A4
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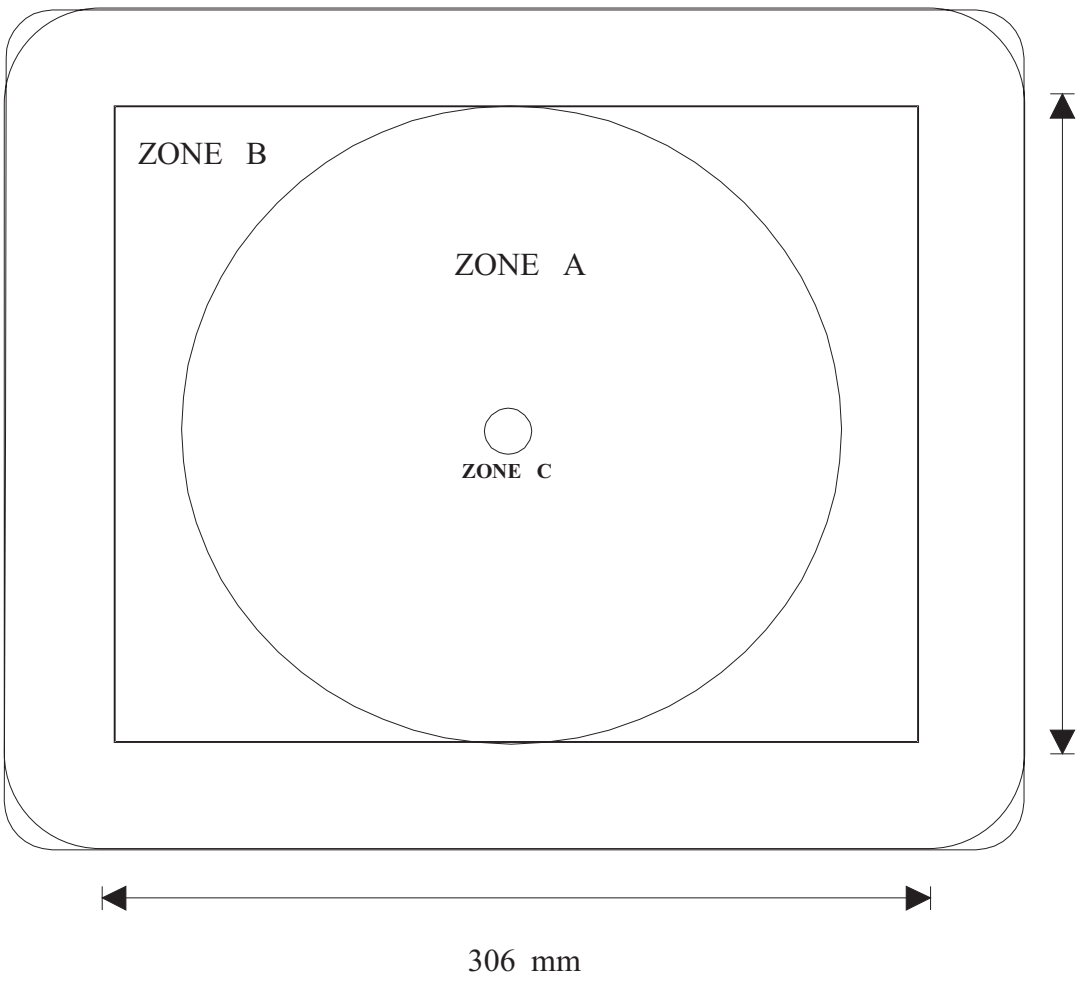

FIG-6 MISCONVERGENCE

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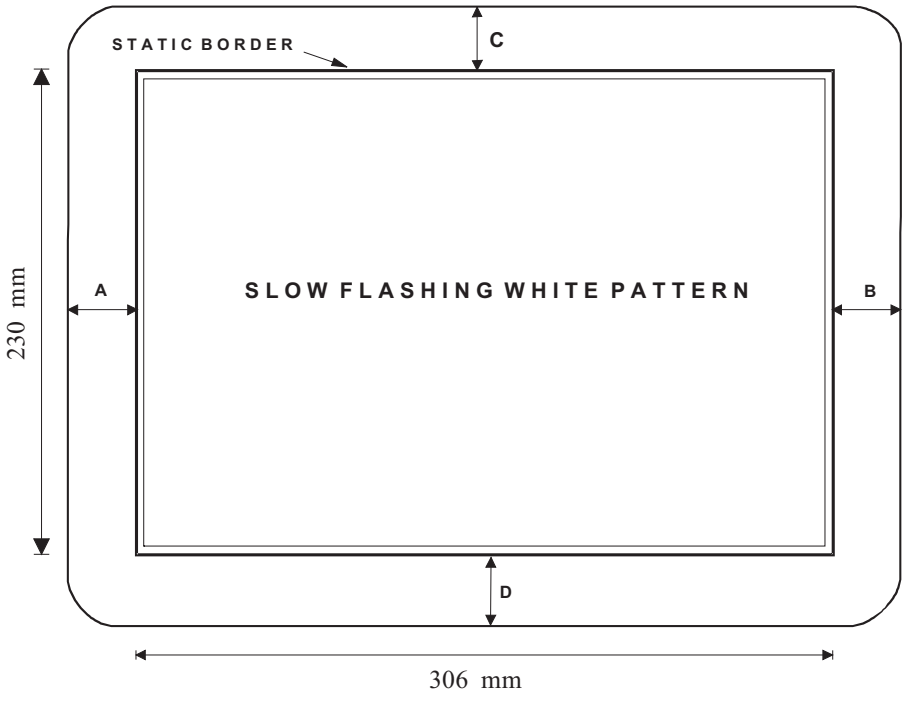
2004-06-11								
NAME P.S.SU	SUPERS.		31	590 — 29	10		A4	
TY / CHECK	DATE 2004-06-11	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.						

2838 100 05424



$\Delta A < 1.50$ mm
$\Delta B < 1.50$ mm

$\Delta C < 1.20$ mm
$\Delta D < 1.20$ mm

(Δ measured between flash on / off)

Figure 7

Static EHT regulation distortion pattern

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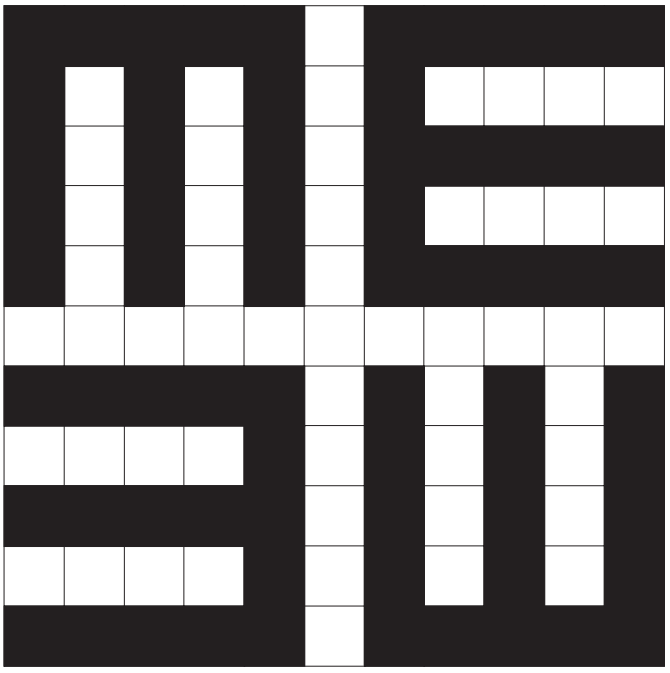


Figure 8

Focus check character

TELEVISION/MONITOR SAFFTY GUIDELINES FOR THE PROFESSIONAL SERVICE TECHNICIAN

Safety Checks

After the original service problem has been corrected,a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition,which could be unknowingly passed on to your customer. Be sure to check all of the following:

Fire and Shock Hazard

1. Be sure all components are positioned in such a way as to avoid the possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the service shop.
2. Never release a repaired unit unless all protective devices such as insulators, barries, covers, strain reliefs, and other hardware have been installed in accordance with the original design.
3. Soldering and wiring must be inspected to locate possible cold solder joints,solder splashes,sharp solder points, frayed leads, pinched leads, or damaged insulation (including the ac cord).Be certain to remove loose solder balls and all other loose foreign particles.
4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout,lead length, and dress.
5. No lead or component should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.
6. Critical components having special safety characteristics are identified with ans by the Ref. No. in the parts list and enclosed within a broken line * (where several critical components are grouped in one area) along with the safety symbols on the schematic diagrams and/or exploded views.
7. When servicing any unit, always use a separate isolation transformer for the chassis Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.
8. Many electronic products use a polarized ac line cord (one wide pin on the plug.) Defeating this safety feature may create a potential hazard to the service and the user. Extension cords which do not incorporate the polarizing feature should never be used.
9. After reassembly of the unit, always perform an leakage test or resistance test from the line cord to all exposed metal parts of the cabinet. Also check all metal control shafts(with knobs removed), antenna terminals, handles, screws, etc. to be sure the unit may be safety operated without danger of electrical shock.

* Broken line

Implosion

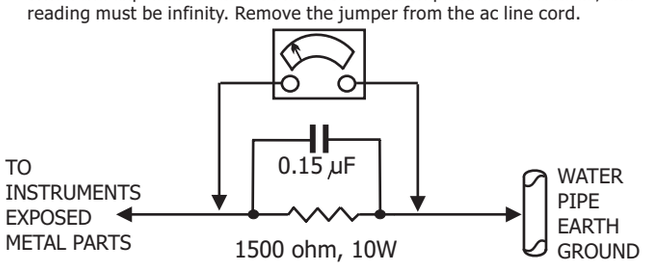
1. All picture tubes used in current model receivers are equipped with an integral implosion system. Care should always be used, and safety glasses worn,whenever handling any picture tube. Avoid scratching or otherwise damaging the picture tube during installation.
2. Use only replacement tubes specified by the manufacturer.

X-radiation

1. Be sure procedures and instructions to all your service personnel cover the subject of X-radiation. Potential sources of X-rays in TV receivers are the picture tube and the high voltage circuits. The basic precaution which must be exercised is to keep the high voltage at the factory recommended level.
2. To avoid possible exposure to X-radiation and electrical shock, only the manufacturer's specified anode connectors must be used.
3. It is essential that the service technician has an accurate HV meter available at all times. The calibration of this meter should be checked periodically against a reference standard.
4. When the HV circuitry is operating properly there is no possibility of an x-radiation problem. High voltage should always be kept at the manufacturer's rated value-no higher - for optimum performance. Every time a color set is serviced, the brightness should be run up and down while monitoring the HV with a meter to be certain that the HV is regulated correctly and does not exceed the specified value. We suggest that you and your technicians review test procedures so that HV and HV regulation are always checked as a standard servicing procedure, and the reason for this prudent routine is clearly understood by everyone. It is important to use an accurate and reliable HV meter. It is recommended that the HV recorded on each customer's invoice, which will demonstrate a proper concern for the customer's safety.
5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, reduce the line voltage by means of a Variac to bring the HV into acceptable limits while troubleshooting. Do
6. New picture tubes are specifically designed to withstand higher operathng voltages without creating undesirable X-radiation. It is strongly recommended that any shop test fixture which is to be used with the new higher voltage chassis be equipped with one of the new type tubes designed for this service. Addition of a permanently connected HV meter to the shop test fixture is advisable. The CRT types used in these new sets should never be replaced with any other types, as this may result in excessive X-radiation.
7. It is essential to use the specified picture tube to avoid a possible X-diation problem.
8. Most TV receivers contain some type of emergency "Hold Down" circuit to prevent HV from rising to excessive levels in the presence of a failure mode. These various circuits should be understood by all technicians servicing them, especially since many hold down circuits are inoperative as long as the receiver performs normally.

Leakage Current Cold Check

1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.
2. Turn on the power switch.
3. Measure the resistance value between the jumpered ac plug and all exposed cabinet parts of the receiver, such as screw heads, antennas, and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1 megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from the ac line cord.



Leakage Current Hot Check

1. Do not use an isolation transformer for this test. Plug the completely reassembled receiver directly into the ac outlet.
2. Connect a 1.5k, 10w resistor paralleled by a 0.15uf. capacitor between each exposed metallic cabinet part and a good earth ground such as a water pipe, as shown above.
3. Use an ac voltmeter with at least 5000 ohms volt sensitivity to measure the potential across the resistor.
4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5 milliamps. If a measurement is outside of the specified limits, there is a possibility of shock hazard. The receiver should be repaired and rechecked before returning it to the customer.
5. Repeat the above procedure with the ac plug reversed.(Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

Picture Tube Replacement

The primary source of X-radiation in this television receiver is the picture tube. The picture tube utilized in this chassis is specially constructed to limit X-radiation emissions. For continued X-radiation protection, the replacement tube must be the same type as the original, including suffix letter, or a Philips approved type.

Parts Replacement

Many electrical and mechanical parts in Philips television sets have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the Philips recommended replacement part shown in this service manual may create shock, fire, or other hazards

WARNING : Before removing the CRT anode cap, turn the unit **OFF** and short the HIGH VOLTAGE to the CRT DAG ground.
SERVICE NOTE : The CRT DAG is not at chassis ground.